



OHANA
BIO PHARMA

CANNABINOID API PRODUCTS CATALOG

Natural Plant-Based Phyto-pharmaceuticals for Research and Drug Development

GACP ✧ GMP ✧ EU/GMP



For more information, find us at www.ohana-biopharma.com or email us at api.info@ohana-biopharma.com

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FOUNDER'S MESSAGE

A Message from Our Founder & CEO

Over the years, I have watched the U.S. cannabis industry evolve around a single priority: revenue, consumer branding, and market share capture — while the needs of researchers, clinicians, and pharmaceutical developers went largely unmet. In that gap, a systemic failure became clear: a limited supply of unstandardized plant material, a shortage of rigorously documented natural plant-based APIs, and a broken supply chain for the materials needed to advance scientific research, clinical studies, and drug development.

This is why I created OHANA — to support scientific research, investigative discoveries, clinical trials, and new drug development, both Rx and OTC.

We will collaborate closely with investigators, clinicians, and pharmaceutical teams to support your work by providing products of the highest standard and by unlocking new avenues of scientific inquiry. Our commitment to rigor, diversity, clear communication, and ethics underscores our dedication to the broader good.

We want scientists, researchers, clinicians, and partners to choose OHANA. Your work matters, and it is a privilege to support it.

Harold T Panciera III

Founder & CEO | OHANA Bio Pharma, LLC

Pharmaceutical-Grade Cannabinoid API Manufacturing — OHANA Bio Pharma, LLC

COMPANY OVERVIEW

Who We Are

OHANA Bio Pharma, LLC is a U.S. based pharmaceutical manufacturer headquartered in Rhode Island. We specialize in the production and manufacturing of natural plant-based phytopharmaceutical cannabinoid products. Founded by Harold T. Panciera III, OHANA was built to advance rigorous, science-driven cannabinoid therapeutics for the research and pharmaceutical communities — not to pursue the retail or commercial cannabis market. The company holds DEA registrations under Drug Codes 7350, 7360, and 7370, along with FDA drug establishment (FEI) registration, positioning OHANA as a trusted, federally compliant source of controlled cannabinoid substances for institutional partners.



What We Do

OHANA manufactures high-purity, plant-derived cannabinoid Active Pharmaceutical Ingredients (APIs) — including CBD, Delta-9-THC, Delta-8-THC, THCA-A, and THCv — for institutional researchers, clinical trial investigators, NIH- and NIDA-affiliated programs, and pharmaceutical purchasing partners. Operations span the entire value chain in-house: GACP-compliant cultivation of a proprietary chemovar library, cGMP-compliant isolation and purification, and finished-product manufacturing under standardized documentation suitable for FDA inspection. As a 503B outsourcing facility, OHANA produces both sterile and non-sterile cannabinoid products, and leverages regulatory pathways such as Right to Try and FDA Pilot Programs to accelerate compliant access to novel cannabinoid-based treatments — delivering a dependable, scientifically rigorous supply chain from plant to API.





GACP Cultivation to GMP API Manufacturing

Seed-to-isolate cultivation and pharmaceutical manufacturing of cannabinoid Active Pharmaceutical Ingredients (APIs).

OHANA Bio Pharma vertically integrates GACP cultivation from seed through GMP-manufactured Cannabinoid Isolate. Production of cannabinoid Active Pharmaceutical Ingredients (APIs), precursor biomass, and bulk APIs is conducted under a DEA-licensed Schedule I bulk manufacturer registration (Drug Codes 7350, 7360, 7370). Cultivation operations are designed to meet WHO/EMA Good Agricultural and Collection Practice (GACP, 2003) requirements for medicinal plant starting materials, alongside USDA Good Agricultural Practice (GAP, 7 CFR Part 990) standards, covering species authentication, chemotype-verified genetics, cultivation conditions, harvest timing, and contaminant controls for pesticides, heavy metals, and mycotoxins. A proprietary chemovar library — organized into five primary cultivation streams (high-THCA, high-CBDA, high-CBGA, high-THCVA, and high-CBDVA genetics) — supports reproducible, high-potency biomass sourcing for downstream isolate production. Manufacturing operations convert GACP-grown biomass into pharmaceutical-grade APIs under ICH Q7 Good Manufacturing Practice, U.S. cGMP (21 CFR Parts 210/211), and EU GMP Part II, using solvent-based (ethanol) and supercritical CO₂ (SFE, GAMP 5-validated) extraction, cold-ethanol winterization, short-path/wiped-film distillation, and preparative chromatography for cannabinoid isolation and purification. Facility and quality systems include qualified and calibrated equipment, Master Batch Records, validated SOPs, deviation and change-control procedures, and full batch traceability from seed to finished isolate — generating the CMC data required to support Drug Master Files, IND submissions, and stability programs. Together, these capabilities position OHANA Bio Pharma to deliver consistent, compliant, and scalable cannabinoid API production for pharmaceutical and clinical research markets.

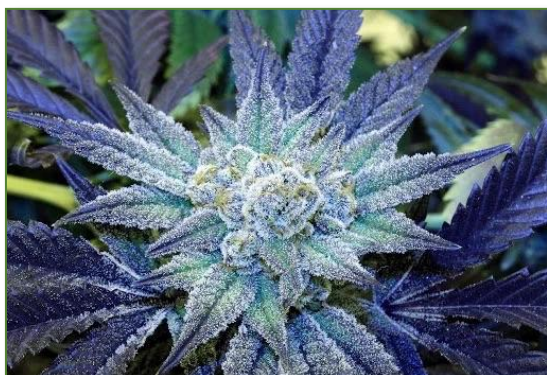




SECTION 1 — Pharmaceutical-Grade Δ9-THC Cannabis Flower

for Institutional Research, NIH/NIDA-Aligned Studies, WHO Scheduling Review, and Pharmaceutical Development.

This section presents OHANA Bio Pharma's Δ9-THC cannabinoid chemovar portfolio, cultivated and processed for institutional research investigators, NIH- and NIDA-affiliated research programs, WHO Expert Committee on Drug Dependence (ECDD) reference use, and pharmaceutical development partners engaged in Chemistry, Manufacturing & Controls (CMC) and Investigational New Drug (IND)-enabling programs. All materials are produced under a continuous quality framework spanning Good Agricultural and Collection Practices (GACP) cultivation, Good Manufacturing Practice (GMP) and EU-GMP-aligned processing, and full batch-level Certificate of Analysis (COA) documentation. Consistent with OHANA's 100% plant-derived, no-synthetic-cannabinoids policy, all chemovars are propagated from OHANA's proprietary genetics library and cultivated as whole-plant *Cannabis sativa* L. — no synthetic cannabinoids are grown, blended, or sold under this catalog section.



Products in This Section

1. **OHB-PM-001** — Extremely High-Δ9-THC Cannabis Flower — NIDA-Comparable Research Grade
2. **OHB-PM-002** — High-Δ9-THC Cannabis Flower — Research Grade
3. **OHB-PM-003** — Medium-Δ9-THC Cannabis Flower — Dose-Response Research Grade
4. **OHB-PM-004** — Low-THC / High-CBD Cannabis Flower — Non-Psychoactive Research Grade
5. **OHB-PM-005** — Balanced THC:CBD (1:1) Cannabis Flower — Entourage Research Grade
6. **OHB-PM-006** — CBG-Predominant Cannabis Flower — Minor Cannabinoid Research Grade
7. **OHB-PM-007** — THCV-Predominant Cannabis Flower — Metabolic Research Grade
8. **OHB-PM-008** — Multi-Cannabinoid (Minor-Rich) Cannabis Flower — Whole-Plant Phytopharmaceutical Research
9. **OHB-PM-009** — Standardized Cannabis Biomass — Extraction & Process-Development Feedstock
10. **OHB-PM-010** — Standardized Cannabis Research Cigarettes — Inhalation Pharmacokinetic Study Grade
11. **OHB-PM-011** — Custom Chemovar Cultivation — Bespoke Research & Genetic Study Grade

ACCESS & ELIGIBILITY NOTICE

All products in this section are DEA Schedule I controlled substances (Drug Code 7360) intended exclusively for research, clinical development, and regulatory-review use. Distribution is restricted to institutions holding an active DEA Schedule I researcher registration, and, where applicable, current IRB approval and/or an active FDA IND. These products are not for human consumption, resale, or commercial distribution.

OHB-PM-001 - Extremely High-Δ9-THC Cannabis Flower

Research Grade

Classification	Indica / Sativa Hybrid Chemovars — Botanical Source: Cannabis sativa L.
Cannabinoid Profile	Δ9-THC: ≥30% CBD: <1%
(Minor Profile)	CBG, CBN, THCV, and other trace cannabinoids pending final chemovar selection
Terpene Profile	Chemovar-specific; full terpene profile characterized by GC-FID/GC-MS
Form & Cultivation	Bulk flower / standardized research cigarettes — Indoor cultivation under GACP, processed under GMP
Research Applications	- Abuse liability and dependence-potential assessment, aligned with FDA draft guidance on abuse-potential evaluation and NIDA Drug Supply Program comparator use - Simulated and on-road motor-vehicle impairment studies (NHTSA/NIDA protocol frameworks) - Potency-escalation and dose-ranging pharmacokinetic/pharmacodynamic studies - Reference material supporting WHO Expert Committee on Drug Dependence (ECDD) scheduling-review submissions
Regulatory Classification	DEA Schedule I Controlled Substance — Drug Code 7360 (Marijuana and Marijuana Extract, >0.3% Δ9-THC), 21 CFR Part 1301/1308. Recipient institution must hold an active DEA Schedule I researcher registration (or equivalent government authorization) and, for human-subjects' protocols, current IRB approval and an active FDA IND, consistent with NIDA Drug Supply Program request requirements.
Quality & Compliance Standards	Cultivated under Good Agricultural and Collection Practices (GACP) consistent with WHO guidelines on GACP for medicinal plants; processed under Good Manufacturing Practice (GMP) principles aligned with EU-GMP Annex 7 for herbal medicinal products and 21 CFR Parts 210/211, supporting Chemistry, Manufacturing & Controls (CMC) documentation per ICH Q7.
Certificate of Analysis / Analytical Panel	- Cannabinoid quantification by validated HPLC-UV (ICH Q2(R2)) - Terpene profiling by GC-FID / GC-MS - Heavy metals by ICP-MS (USP <233>) - Pesticide residues by LC-MS/MS and GC-MS/MS - Residual solvents per USP <467>; microbial limits per USP <61>/<62> - Water activity/moisture content and mycotoxin screening - Full COA issued per batch/lot with a unique chemovar accession ID for end-to-end traceability
Distribution & Chain of Custody	Shipped under DEA-registered controlled-substance chain of custody. Requires a completed Material Transfer/Supply Agreement, a DEA Form 222 or CSOS electronic order (recipient-initiated), and a signed research-use-only end-user certification. Full chain-of-custody documentation is maintained from GACP cultivation through GMP processing and shipment.

OHB-PM-002 - High-Δ9-THC Cannabis Flower

Research Grade

Classification	Indica / Sativa Hybrid Chemovars — Botanical Source: Cannabis sativa L.
Cannabinoid Profile	Δ9-THC: >20–<30% CBD: <1%
(Minor Profile)	CBG, CBN, THCV, and other trace cannabinoids pending final chemovar selection
Terpene Profile	Chemovar-specific; full terpene profile characterized by GC-FID/GC-MS
Form & Cultivation	Bulk flower / standardized research cigarettes — Indoor cultivation under GACP, processed under GMP
Research Applications	• Abuse liability studies and comparator dosing for NIDA-aligned research protocols • Motor-vehicle and psychomotor impairment research • Potency-escalation and tolerability studies • IND-enabling nonclinical and early clinical pharmacology support
Regulatory Classification	DEA Schedule I Controlled Substance — Drug Code 7360 (Marijuana and Marijuana Extract, >0.3% Δ9-THC), 21 CFR Part 1301/1308. Recipient institution must hold an active DEA Schedule I researcher registration (or equivalent government authorization) and, for human-subjects' protocols, current IRB approval and an active FDA IND, consistent with NIDA Drug Supply Program request requirements.
Quality & Compliance Standards	Cultivated under Good Agricultural and Collection Practices (GACP) consistent with WHO guidelines on GACP for medicinal plants; processed under Good Manufacturing Practice (GMP) principles aligned with EU-GMP Annex 7 for herbal medicinal products and 21 CFR Parts 210/211, supporting Chemistry, Manufacturing & Controls (CMC) documentation per ICH Q7.
Certificate of Analysis / Analytical Panel	• Cannabinoid quantification by validated HPLC-UV (ICH Q2(R2)) • Terpene profiling by GC-FID / GC-MS • Heavy metals by ICP-MS (USP <233>) • Pesticide residues by LC-MS/MS and GC-MS/MS • Residual solvents per USP <467>; microbial limits per USP <61>/<62> • Water activity/moisture content and mycotoxin screening • Full COA issued per batch/lot with a unique chemovar accession ID for end-to-end traceability
Distribution & Chain of Custody	Shipped under DEA-registered controlled-substance chain of custody. Requires a completed Material Transfer/Supply Agreement, a DEA Form 222 or CSOS electronic order (recipient-initiated), and a signed research-use-only end-user certification. Full chain-of-custody documentation is maintained from GACP cultivation through GMP processing and shipment.

OHB-PM-003 - Medium-Δ9-THC Cannabis Flower

Dose-Response Research

Classification	Indica / Sativa Hybrid Chemovars — Botanical Source: Cannabis sativa L.
Cannabinoid Profile	Δ9-THC: >10–<20% CBD: >1–<5%
(Minor Profile)	CBG, CBN, THCV, and other trace cannabinoids pending final chemovar selection
Terpene Profile	Chemovar-specific; full terpene profile characterized by GC-FID/GC-MS
Form & Cultivation	Bulk flower / standardized research — Indoor cultivation under GACP, processed under GMP
Research Applications	• General cannabinoid pharmacology and dose-response characterization • Behavioral pharmacology and cognitive-performance studies • Preclinical-to-clinical bridging studies supporting IND-enabling packages • Comparator material for institutional and NIH-funded protocol development
Regulatory Classification	DEA Schedule I Controlled Substance — Drug Code 7360 (Marijuana and Marijuana Extract, >0.3% Δ9-THC), 21 CFR Part 1301/1308. Recipient institution must hold an active DEA Schedule I researcher registration (or equivalent government authorization) and, for human-subjects' protocols, current IRB approval and an active FDA IND, consistent with NIDA Drug Supply Program request requirements.
Quality & Compliance Standards	Cultivated under Good Agricultural and Collection Practices (GACP) consistent with WHO guidelines on GACP for medicinal plants; processed under Good Manufacturing Practice (GMP) principles aligned with EU-GMP Annex 7 for herbal medicinal products and 21 CFR Parts 210/211, supporting Chemistry, Manufacturing & Controls (CMC) documentation per ICH Q7.
Certificate of Analysis / Analytical Panel	• Cannabinoid quantification by validated HPLC-UV (ICH Q2(R2)) • Terpene profiling by GC-FID / GC-MS • Heavy metals by ICP-MS (USP <233>) • Pesticide residues by LC-MS/MS and GC-MS/MS • Residual solvents per USP <467>; microbial limits per USP <61>/<62> • Water activity/moisture content and mycotoxin screening • Full COA issued per batch/lot with a unique chemovar accession ID for end-to-end traceability
Distribution & Chain of Custody	Shipped under DEA-registered controlled-substance chain of custody. Requires a completed Material Transfer/Supply Agreement, a DEA Form 222 or CSOS electronic order (recipient-initiated), and a signed research-use-only end-user certification. Full chain-of-custody documentation is maintained from GACP cultivation through GMP processing and shipment.

OHB-PM-004 - Low-THC / High-CBD Cannabis Flower

Non-Psychoactive Research

Classification	CBD-Predominant Chemovar — Botanical Source: Cannabis sativa L.
Cannabinoid Profile	CBD: ≥ 10–$<20\%$ $\Delta 9$-THC: $\leq 1\%$ CBG: 0.5–2%
Other Cannabinoids (Minor Profile)	CBN, THCV, and other trace cannabinoids pending final chemovar selection
Terpene Profile	Chemovar-specific; full terpene profile characterized by GC-FID/GC-MS
Form & Cultivation	Bulk flower / standardized research cigarettes — Indoor cultivation under GACP, processed under GMP
Research Applications	• CBD efficacy and mechanism-of-action trials for epilepsy and seizure-disorder research • Anxiolytic and non-psychoactive cannabinoid studies • Pediatric- and vulnerable-population-relevant research supported by a non-psychoactive profile • Comparative studies referencing FDA-approved CBD botanical drug precedent
Regulatory Classification	DEA Schedule I Controlled Substance — Drug Code 7360 (Marijuana and Marijuana Extract, $>0.3\%$ $\Delta 9$ -THC), 21 CFR Part 1301/1308. Recipient institution must hold an active DEA Schedule I researcher registration (or equivalent government authorization) and, for human-subject's protocols, current IRB approval and an active FDA IND, consistent with NIDA Drug Supply Program request requirements.
Quality & Compliance Standards	Cultivated under Good Agricultural and Collection Practices (GACP) consistent with WHO guidelines on GACP for medicinal plants; processed under Good Manufacturing Practice (GMP) principles aligned with EU-GMP Annex 7 for herbal medicinal products and 21 CFR Parts 210/211, supporting Chemistry, Manufacturing & Controls (CMC) documentation per ICH Q7.
Certificate of Analysis / Analytical Panel	• Cannabinoid quantification by validated HPLC-UV (ICH Q2(R2)) • Terpene profiling by GC-FID / GC-MS • Heavy metals by ICP-MS (USP $<233>$) • Pesticide residues by LC-MS/MS and GC-MS/MS • Residual solvents per USP $<467>$; microbial limits per USP $<61>/<62>$ • Water activity/moisture content and mycotoxin screening • Full COA issued per batch/lot with a unique chemovar accession ID for end-to-end traceability
Distribution & Chain of Custody	Shipped under DEA-registered controlled-substance chain of custody. Requires a completed Material Transfer/Supply Agreement, a DEA Form 222 or CSOS electronic order (recipient-initiated), and a signed research-use-only end-user certification. Full chain-of-custody documentation is maintained from GACP cultivation through GMP processing and shipment.

OHB-PM-005 - Balanced THC:CBD (1:1) Cannabis Flower

Entourage Research

Classification	Indica / Sativa Hybrid Chemovars — Botanical Source: Cannabis sativa L.
Cannabinoid Profile	Δ^9-THC: 5–12% CBD: 5–12%
Other Cannabinoids (Minor Profile)	CBG, CBN, THCV, and other trace cannabinoids pending final chemovar selection
Terpene Profile	Select chemovars bred for a defined, balanced terpene profile (GC-FID/GC-MS characterized)
Form & Cultivation	Bulk flower / standardized research cigarettes — Indoor cultivation under GACP, processed under GMP
Recommended Research Applications	• Entourage-effect and cannabinoid-terpene synergy studies • Chronic and neuropathic pain research • Synergistic cannabinoid-interaction and comparative-effectiveness studies • Botanical combination-product development supporting 505(b)(2) pathways
Regulatory Classification	DEA Schedule I Controlled Substance — Drug Code 7360 (Marijuana and Marijuana Extract, >0.3% Δ^9 -THC), 21 CFR Part 1301/1308. Recipient institution must hold an active DEA Schedule I researcher registration (or equivalent government authorization) and, for human-subjects' protocols, current IRB approval and an active FDA IND, consistent with NIDA Drug Supply Program request requirements.
Quality & Compliance Standards	Cultivated under Good Agricultural and Collection Practices (GACP) consistent with WHO guidelines on GACP for medicinal plants; processed under Good Manufacturing Practice (GMP) principles aligned with EU-GMP Annex 7 for herbal medicinal products and 21 CFR Parts 210/211, supporting Chemistry, Manufacturing & Controls (CMC) documentation per ICH Q7.
Certificate of Analysis / Analytical Panel	• Cannabinoid quantification by validated HPLC-UV (ICH Q2(R2)) • Terpene profiling by GC-FID / GC-MS • Heavy metals by ICP-MS (USP <233>) • Pesticide residues by LC-MS/MS and GC-MS/MS • Residual solvents per USP <467>; microbial limits per USP <61>/<62> • Water activity/moisture content and mycotoxin screening • Full COA issued per batch/lot with a unique chemovar accession ID for end-to-end traceability
Distribution & Chain of Custody	Shipped under DEA-registered controlled-substance chain of custody. Requires a completed Material Transfer/Supply Agreement, a DEA Form 222 or CSOS electronic order (recipient-initiated), and a signed research-use-only end-user certification. Full chain-of-custody documentation is maintained from GACP cultivation through GMP processing and shipment.

OHB-PM-006 – CBG-Predominant Cannabis Flower

Minor Cannabinoid Research

Classification	CBG-Dominant Cultivar — Botanical Source: Cannabis sativa L.
Cannabinoid Profile	CBG: 10–18% Δ9-THC: <1% CBD: <1%
Other Cannabinoids (Minor Profile)	THCV and other trace cannabinoids pending final chemovar selection
Terpene Profile	Chemovar-specific; full terpene profile characterized by GC-FID/GC-MS
Form & Cultivation	Bulk flower / standardized research cigarettes — Indoor cultivation under GACP, processed under GMP
Recommended Research Applications	• CBG receptor pharmacology (CB1/CB2, TRPV, 5-HT1A) research • Anti-inflammatory and neuroprotective mechanism-of-action studies • Novel minor-cannabinoid drug-discovery and target-validation programs • Reference material for NIH-supported minor-cannabinoid research grants
Regulatory Classification	DEA Schedule I Controlled Substance — Drug Code 7360 (Marijuana and Marijuana Extract, >0.3% Δ9-THC), 21 CFR Part 1301/1308. Recipient institution must hold an active DEA Schedule I researcher registration (or equivalent government authorization) and, for human-subjects' protocols, current IRB approval and an active FDA IND, consistent with NIDA Drug Supply Program request requirements.
Quality & Compliance Standards	Cultivated under Good Agricultural and Collection Practices (GACP) consistent with WHO guidelines on GACP for medicinal plants; processed under Good Manufacturing Practice (GMP) principles aligned with EU-GMP Annex 7 for herbal medicinal products and 21 CFR Parts 210/211, supporting Chemistry, Manufacturing & Controls (CMC) documentation per ICH Q7.
Certificate of Analysis / Analytical Panel	• Cannabinoid quantification by validated HPLC-UV (ICH Q2(R2)) • Terpene profiling by GC-FID / GC-MS • Heavy metals by ICP-MS (USP <233>) • Pesticide residues by LC-MS/MS and GC-MS/MS • Residual solvents per USP <467>; microbial limits per USP <61>/<62> • Water activity/moisture content and mycotoxin screening • Full COA issued per batch/lot with a unique chemovar accession ID for end-to-end traceability
Distribution & Chain of Custody	Shipped under DEA-registered controlled-substance chain of custody. Requires a completed Material Transfer/Supply Agreement, a DEA Form 222 or CSOS electronic order (recipient-initiated), and a signed research-use-only end-user certification. Full chain-of-custody documentation is maintained from GACP cultivation through GMP processing and shipment.

OHB-PM-007 - THCV-Predominant Cannabis Flower

Metabolic Research

Classification	THCV-Enriched Cultivar — Botanical Source: Cannabis sativa L.
Cannabinoid Profile	THCV: 3–8% Δ9-THC: 5–10% CBD: <2%
Other Cannabinoids (Minor Profile)	Other trace cannabinoids reported on Certificate of Analysis
Terpene Profile	Distinct chemovar-specific terpene profile characterized by GC-FID/GC-MS
Form & Cultivation	Bulk flower / standardized research cigarettes — Indoor cultivation under GACP, processed under GMP
Recommended Research Applications	• Metabolic and appetite-modulation pharmacology (CB1 antagonist/partial-agonist profile) • Obesity and metabolic-syndrome research • Minor-cannabinoid pharmacokinetic and pharmacodynamic characterization • Preclinical target-engagement studies supporting IND-enabling packages
Regulatory Classification	DEA Schedule I Controlled Substance — Drug Code 7360 (Marijuana and Marijuana Extract, >0.3% Δ9-THC), 21 CFR Part 1301/1308. Recipient institution must hold an active DEA Schedule I researcher registration (or equivalent government authorization) and, for human-subjects' protocols, current IRB approval and an active FDA IND, consistent with NIDA Drug Supply Program request requirements.
Quality & Compliance Standards	Cultivated under Good Agricultural and Collection Practices (GACP) consistent with WHO guidelines on GACP for medicinal plants; processed under Good Manufacturing Practice (GMP) principles aligned with EU-GMP Annex 7 for herbal medicinal products and 21 CFR Parts 210/211, supporting Chemistry, Manufacturing & Controls (CMC) documentation per ICH Q7.
Certificate of Analysis / Analytical Panel	• Cannabinoid quantification by validated HPLC-UV (ICH Q2(R2)) • Terpene profiling by GC-FID / GC-MS • Heavy metals by ICP-MS (USP <233>) • Pesticide residues by LC-MS/MS and GC-MS/MS • Residual solvents per USP <467>; microbial limits per USP <61>/<62> • Water activity/moisture content and mycotoxin screening • Full COA issued per batch/lot with a unique chemovar accession ID for end-to-end traceability
Distribution & Chain of Custody	Shipped under DEA-registered controlled-substance chain of custody. Requires a completed Material Transfer/Supply Agreement, a DEA Form 222 or CSOS electronic order (recipient-initiated), and a signed research-use-only end-user certification. Full chain-of-custody documentation is maintained from GACP cultivation through GMP processing and shipment.

OHB-PM-008 - Multi-Cannabinoid (Minor-Rich) Cannabis Flower

Research Studies

Classification	Exotic Hybrid Chemovars — Botanical Source: Cannabis sativa L.
Cannabinoid Profile	Δ9-THC: 5–10% CBD: 3–8% CBG: 1–3% CBC: 0.5–1% CBN: trace
Other Cannabinoids (Minor Profile)	Complex minor-cannabinoid matrix; full panel reported on Certificate of Analysis
Terpene Profile	Complex, chemovar-specific terpene profile characterized by GC-FID/GC-MS
Form & Cultivation	Bulk flower / standardized research cigarettes — Indoor cultivation under GACP, processed under GMP
Recommended Research Applications	• Whole-plant / phytopharmaceutical combinatorial cannabinoid research • Polypharmacology and multi-target mechanism-of-action studies • Botanical drug development supporting FDA Botanical Drug Development guidance and 505(b)(1)/(2) pathways • Entourage and matrix-effect studies for pharmaceutical partners
Regulatory Classification	DEA Schedule I Controlled Substance — Drug Code 7360 (Marijuana and Marijuana Extract, >0.3% Δ9-THC), 21 CFR Part 1301/1308. Recipient institution must hold an active DEA Schedule I researcher registration (or equivalent government authorization) and, for human-subjects' protocols, current IRB approval and an active FDA IND, consistent with NIDA Drug Supply Program request requirements.
Quality & Compliance Standards	Cultivated under Good Agricultural and Collection Practices (GACP) consistent with WHO guidelines on GACP for medicinal plants; processed under Good Manufacturing Practice (GMP) principles aligned with EU-GMP Annex 7 for herbal medicinal products and 21 CFR Parts 210/211, supporting Chemistry, Manufacturing & Controls (CMC) documentation per ICH Q7.
Certificate of Analysis / Analytical Panel	• Cannabinoid quantification by validated HPLC-UV (ICH Q2(R2)) • Terpene profiling by GC-FID / GC-MS • Heavy metals by ICP-MS (USP <233>) • Pesticide residues by LC-MS/MS and GC-MS/MS • Residual solvents per USP <467>; microbial limits per USP <61>/<62> • Water activity/moisture content and mycotoxin screening • Full COA issued per batch/lot with a unique chemovar accession ID for end-to-end traceability
Distribution & Chain of Custody	Shipped under DEA-registered controlled-substance chain of custody. Requires a completed Material Transfer/Supply Agreement, a DEA Form 222 or CSOS electronic order (recipient-initiated), and a signed research-use-only end-user certification. Full chain-of-custody documentation is maintained from GACP cultivation through GMP processing and shipment.

OHB-PM-009 - Standardized Cannabis Biomass

Extraction & Development Feedstock

Classification	Mixed Cultivar — Botanical Source: Cannabis sativa L.
Cannabinoid Profile	Δ9-THC: variable , per specification CBD: variable, per specification (quantified via validated HPLC-UV, ICH Q2(R2))
Other Cannabinoids (Minor Profile)	Full minor-cannabinoid profile reported on Certificate of Analysis
Terpene Profile	Defined terpene ranges, characterized by GC-FID/GC-MS
Form & Cultivation	Dried, milled biomass — Indoor cultivation under GACP, processed under GMP
Recommended Research Applications	• GMP extraction-process development and manufacturing scale-up feedstock • Reference/comparator material for large-batch analytical method validation • CMC batch-consistency and process-robustness studies • Supply for pharmaceutical partner extraction and API-isolation programs
Regulatory Classification	DEA Schedule I Controlled Substance — Drug Code 7360 (Marijuana and Marijuana Extract, >0.3% Δ9-THC), 21 CFR Part 1301/1308. Recipient institution must hold an active DEA Schedule I researcher registration (or equivalent government authorization) and, for human-subjects' protocols, current IRB approval and an active FDA IND, consistent with NIDA Drug Supply Program request requirements.
Quality & Compliance Standards	Cultivated under Good Agricultural and Collection Practices (GACP) consistent with WHO guidelines on GACP for medicinal plants; processed under Good Manufacturing Practice (GMP) principles aligned with EU-GMP Annex 7 for herbal medicinal products and 21 CFR Parts 210/211, supporting Chemistry, Manufacturing & Controls (CMC) documentation per ICH Q7.
Certificate of Analysis / Analytical Panel	• Cannabinoid quantification by validated HPLC-UV (ICH Q2(R2)) • Terpene profiling by GC-FID / GC-MS • Heavy metals by ICP-MS (USP <233>) • Pesticide residues by LC-MS/MS and GC-MS/MS • Residual solvents per USP <467>; microbial limits per USP <61>/<62> • Water activity/moisture content and mycotoxin screening • Full COA issued per batch/lot with a unique chemovar accession ID for end-to-end traceability
Distribution & Chain of Custody	Shipped under DEA-registered controlled-substance chain of custody. Requires a completed Material Transfer/Supply Agreement, a DEA Form 222 or CSOS electronic order (recipient-initiated), and a signed research-use-only end-user certification. Full chain-of-custody documentation is maintained from GACP cultivation through GMP processing and shipment.

OHB-PM-010 - Standardized Cannabis Research Cigarettes

Inhalation Pharmacokinetic Study

Classification	Per Sponsor/Protocol Specification — Botanical Source: Cannabis sativa L.
Cannabinoid Profile	Δ9-THC and CBD content per specification (quantified via validated HPLC-UV, ICH Q2(R2))
Other Cannabinoids (Minor Profile)	Full cannabinoid and terpene panel reported on Certificate of Analysis
Terpene Profile	Chemovar-specific; full terpene profile reported on Certificate of Analysis
Form & Cultivation	Machine-rolled research cigarettes (with/without crutch), manufactured to consistent per-unit dosing — Indoor cultivation under GACP, processed under GMP
Recommended Research Applications	• Standardized inhalation pharmacokinetic and pharmacodynamic studies • Smoking-topography and lung-health research • Abuse-liability and driving-simulation study material with reproducible per-unit dosing • Comparator cigarettes for NIDA-aligned inhalation protocols
Regulatory Classification	DEA Schedule I Controlled Substance — Drug Code 7360 (Marijuana and Marijuana Extract, >0.3% Δ9-THC), 21 CFR Part 1301/1308. Recipient institution must hold an active DEA Schedule I researcher registration (or equivalent government authorization) and, for human-subjects' protocols, current IRB approval and an active FDA IND, consistent with NIDA Drug Supply Program request requirements.
Quality & Compliance Standards	Cultivated under Good Agricultural and Collection Practices (GACP) consistent with WHO guidelines on GACP for medicinal plants; processed under Good Manufacturing Practice (GMP) principles aligned with EU-GMP Annex 7 for herbal medicinal products and 21 CFR Parts 210/211, supporting Chemistry, Manufacturing & Controls (CMC) documentation per ICH Q7.
Certificate of Analysis / Analytical Panel	• Cannabinoid quantification by validated HPLC-UV (ICH Q2(R2)) • Terpene profiling by GC-FID / GC-MS • Heavy metals by ICP-MS (USP <233>) • Pesticide residues by LC-MS/MS and GC-MS/MS • Residual solvents per USP <467>; microbial limits per USP <61>/<62> • Water activity/moisture content and mycotoxin screening • Full COA issued per batch/lot with a unique chemovar accession ID for end-to-end traceability
Distribution & Chain of Custody	Shipped under DEA-registered controlled-substance chain of custody. Requires a completed Material Transfer/Supply Agreement, a DEA Form 222 or CSOS electronic order (recipient-initiated), and a signed research-use-only end-user certification. Full chain-of-custody documentation is maintained from GACP cultivation through GMP processing and shipment.

OHB-PM-011 - Custom Chemovar Cultivation

Bespoke Research & Genetic Study

Classification	Per Researcher/Sponsor Specification — Botanical Source: Cannabis sativa L.
Cannabinoid Profile	Δ9-THC and CBD content fully custom, per protocol requirements. Lead time: 16–24 weeks
(Minor Profile)	Custom minor-cannabinoid targets defined at protocol initiation
Terpene Profile	Custom terpene targets defined at protocol initiation
Form & Cultivation	Bulk flower / biomass / standardized research cigarettes — Indoor cultivation under GACP, processed under GMP
Research Applications	• Bespoke chemotype development for sponsor-specific protocols • Chemovar and genetic-characterization studies • Custom reference-standard cultivation for comparator or IND-enabling studies • Collaborative chemovar-library development with academic and NIH-funded research partners
Regulatory Classification	DEA Schedule I Controlled Substance — Drug Code 7360 (Marijuana and Marijuana Extract, >0.3% Δ9-THC), 21 CFR Part 1301/1308. Recipient institution must hold an active DEA Schedule I researcher registration (or equivalent government authorization) and, for human-subjects' protocols, current IRB approval and an active FDA IND, consistent with NIDA Drug Supply Program request requirements .
Quality & Compliance Standards	Cultivated under Good Agricultural and Collection Practices (GACP) consistent with WHO guidelines on GACP for medicinal plants; processed under Good Manufacturing Practice (GMP) principles aligned with EU-GMP Annex 7 for herbal medicinal products and 21 CFR Parts 210/211, supporting Chemistry, Manufacturing & Controls (CMC) documentation per ICH Q7.
Certificate of Analysis / Analytical Panel	• Cannabinoid quantification by validated HPLC-UV (ICH Q2(R2)) • Terpene profiling by GC-FID / GC-MS • Heavy metals by ICP-MS (USP <233>) • Pesticide residues by LC-MS/MS and GC-MS/MS • Residual solvents per USP <467>; microbial limits per USP <61>/<62> • Water activity/moisture content and mycotoxin screening • Full COA issued per batch/lot with a unique chemovar accession ID for end-to-end traceability
Distribution & Chain of Custody	Shipped under DEA-registered controlled-substance chain of custody. Requires a completed Material Transfer/Supply Agreement, a DEA Form 222 or CSOS electronic order (recipient-initiated), and a signed research-use-only end-user certification. Full chain-of-custody documentation is maintained from GACP cultivation through GMP processing and shipment.



SECTION 2 - Master Chemovar Library

Complete Reference Catalog 102 Characterized Chemovars · 7 Classification Categories
· DEA Drug Codes 7360

This Master Chemovar Library section presents the complete reference set of all 102 genetically and chemically characterized cannabis chemovars maintained by OHANA Bio Pharma, organized into seven classification categories, each entry issued with its OHANA Product Code, genetic classification, regulatory class, target cannabinoid and terpene profile, and intended research / API application. Developed under GACP cultivation practice and scaling into cGMP / EU-GMP processing, this library functions as the master source-material reference underlying the product sections of this catalog — supplying characterized starting material, comparator standards, and rare/minor-cannabinoid chemotypes to pharmaceutical partners, contract researchers, and institutional buyers. Entries marked “TBD” are chemovars pending completion of first-lot analytical characterization; ranges shown for all other entries reflect current characterization data and are refined with each production cycle.

LIBRARY STRUCTURE (102 characterized entries · 7 categories)

Each classification category below carries a dedicated accent color, applied consistently to its section heading and data table throughout this library.

Type	Category	Chemovars
TYPE I	EXTREMELY HIGH THC (>30% THC)	7
TYPE I	SATIVA DOMINANT (High THC / Low CBD)	9
TYPE I	INDICA DOMINANT (High THC / Low CBD)	19
TYPE I	1:1 HYBRID (High THC / Low-to-Trace CBD)	11
TYPE II	BALANCED THC:CBD (Est. 1:1 to 1:3 Ratio)	8
TYPE III	CBD DOMINANT / HEMP-COMPLIANT (<0.3% Δ9-THC)	29
TYPE IV	CBG DOMINANT (Low THC / Low CBD / High CBG)	19
Total Library		102

CORE SPECIFICATIONS PER ENTRY

Each chemovar record below carries the fields defined here. Potency is determined by validated HPLC-UV (ICH Q2(R2)); terpenes by GC-FID/GC-MS. Full profiles (cannabinoids, terpenes, flavonoids) are issued per lot at the time of order — see CoA & QA/QC Support below.

- **Product Code** — unique OHANA identifier; registered OHANA XT™ trade names are shown where assigned (currently limited to the Type I Extremely High THC class).
- **Regulatory Class** — Schedule I Cannabis (>0.3% Δ9-THC) or Hemp / Low-THC Cannabis, with the applicable compliance threshold.
- **Genetics** — lineage/chemovar classification (e.g., Indica-Hybrid, Sativa-Dominant, Ruderalis cross).
- **THC % / CBD %** — target potency range by validated HPLC-UV.
- **Minor Cannabinoids** — indicative minor-cannabinoid content (CBG, CBC, CBN, THCV, and others) with variable percentage where characterized.
- **Dominant Terpenes** — GC-FID/GC-MS terpene profile, dominant terpene listed first.

TYPE I EXTREMELY HIGH THC (>30% THC) - 7 chemovars in this class

Product Code Class Strain THC % CBD % Variable % Minor Cannabinoids Terpene Profile Application Production Certificate of Analysis (COA)	OHB-T1-TT — OHANA XT-29.5™ Schedule I Cannabis (>0.3% Δ9-THC) Indica-Hybrid 26-37% <1% 0–1% CBG 0.3–1.2%; CBC 0.1–0.6% Beta-Caryophyllene (dominant); Myrcene; Limonene Research-Grade Botanical / API Source GACP Indoor Controlled Environment (CMC) Handoff - GMP Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending
Product Code Class Strain THC % CBD % Variable % Minor Cannabinoids Terpene Profile Application Production Certificate of Analysis (COA)	OHB-XT-F1 — OHANA XT-32.5™ Schedule I Cannabis (>0.3% Δ9-THC) Balanced Hybrid 28-37% <1% <0.2–1% CBG 0.2–1.2%; CBC trace Limonene (dominant, tropical citrus); Myrcene; Caryophyllene; Pinene; trace Linalool/Humulene Research-Grade Botanical / API Source GACP Indoor Controlled Environment (CMC) Handoff - GMP Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending
Product Code Class Strain THC % CBD % Variable % Minor Cannabinoids Terpene Profile Application Production Certificate of Analysis (COA)	OHB-XT-BS — OHANA XT-31.5™ Schedule I Cannabis (>0.3% Δ9-THC) Indica-Dominant Hybrid (70/30) 25-38% <1% 0.1–1% CBC 0.26–0.84%; CBG 0.21–0.93%; CBN 0.12–0.2%; THCV 0.22–0.88% Beta-Caryophyllene (dominant, peppery); Myrcene; Limonene; Linalool Research-Grade Botanical / API Source GACP Indoor Controlled Environment (CMC) Handoff - GMP Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending
Product Code Class Strain THC % CBD % Variable % Minor Cannabinoids Terpene Profile Application Production Certificate of Analysis (COA)	OHB-XT-PM — OHANA XT-30™ Schedule I Cannabis (>0.3% Δ9-THC) Indica-Dominant Hybrid (70/30) 25-35% <1% 0.1–1% CBG 0.3–1.5%; CBC trace (<0.5%); CBN 0.2–0.8% (increases with cure) Limonene (dominant); Beta-Caryophyllene; Beta-Myrcene Research-Grade Botanical / API Source GACP Indoor Controlled Environment (CMC) Handoff - GMP Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-XT-GFOG — OHANA XT-28™
Class	Schedule I Cannabis (>0.3% Δ9-THC)
Strain	Indica-Dominant Hybrid (70/30)
THC %	28-34%
CBD %	<1%
Variable %	<1% (often 0.2–0.9%)
Minor Cannabinoids	CBG 0.2–1.0%; CBC 0.1–0.3%; THCV 0.05–0.2%
Terpene Profile	Myrcene (dominant); Beta-Caryophyllene; Limonene; trace Pinene/Linalool
Application	Research-Grade Botanical / API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-XT-BMR — OHANA XT-26.5™
Class	Schedule I Cannabis (>0.3% Δ9-THC)
Strain	Indica-Dominant Hybrid (80/20)
THC %	27-33%
CBD %	<1%
Variable %	0.1–2%
Minor Cannabinoids	CBG 0.2–1.0%; CBC 0.05–0.2%; THCV Trace
Terpene Profile	Myrcene (dominant); Caryophyllene
Application	Research-Grade Botanical / API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-XT-BB — OHANA XT-24™
Class	Schedule I Cannabis (>0.3% Δ9-THC)
Strain	Sativa-Dominant Hybrid (~60/40)
THC %	25-32%
CBD %	<1%
Variable %	<1%
Minor Cannabinoids	CBG 0.08–1.0%; CBC trace; CBN present in some batches
Terpene Profile	Limonene (dominant); Myrcene; Caryophyllene; trace Humulene/Linalool/Pinene
Application	Research-Grade Botanical / API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

TYPE I INDICA DOMINANT (High THC / Low CBD) -19 chemovars in this class

Product Code	OHB-T1-LS
Class	Schedule I Cannabis (>0.3% Δ9-THC)
Strain	Indica-Hybrid
THC %	25-30%
CBD %	<1%
Variable %	~1.0%
Minor Cannabinoids	CBG (~1%)
Terpene Profile	Myrcene, Limonene
Application	Research-Grade Botanical / API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code Class Strain THC % CBD % Variable % Minor Cannabinoids Terpene Profile Application Production Certificate of Analysis (COA)	OHB-T1-WC — OHANA XT-26™ Schedule I Cannabis (>0.3% Δ9-THC) Indica-Hybrid (~60/40) 20-30% <1% <1% (often 0.1–0.25%) CBG 0.25–1.4%; CBC trace Limonene (dominant); Caryophyllene; Humulene; Myrcene Research-Grade Botanical / API Source GACP Indoor Controlled Environment (CMC) Handoff - GMP Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending
Product Code Class Strain THC % CBD % Variable % Minor Cannabinoids Terpene Profile Application Production Certificate of Analysis (COA)	OHB-T1-MB Schedule I Cannabis (>0.3% Δ9-THC) Indica-Hybrid 23-27% <1% ~1.0% CBN (<1%) Caryophyllene, Limonene Research-Grade Botanical / API Source GACP Indoor Controlled Environment (CMC) Handoff - GMP Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending
Product Code Class Strain THC % CBD % Variable % Minor Cannabinoids Terpene Profile Application Production Certificate of Analysis (COA)	OHB-T1-4G Schedule I Cannabis (>0.3% Δ9-THC) Indica-Hybrid 22-28% <1% ~1.0% CBG (~1%) Caryophyllene, Limonene Research-Grade Botanical / API Source GACP Indoor Controlled Environment (CMC) Handoff - GMP Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending
Product Code Class Strain THC % CBD % Variable % Minor Cannabinoids Terpene Profile Application Production Certificate of Analysis (COA)	OHB-T1-FF Schedule I Cannabis (>0.3% Δ9-THC) Indica-Hybrid 23-26% <1% ~1.0% CBN (<1%), CBC (<1%) Myrcene, Limonene Research-Grade Botanical / API Source GACP Indoor Controlled Environment (CMC) Handoff - GMP Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code Class Strain THC % CBD % Variable % Minor Cannabinoids Terpene Profile Application Production Certificate of Analysis (COA)	OHB-T1-S Schedule I Cannabis (>0.3% Δ9-THC) Indica-Hybrid 20-28% <1% ~1.0% CBG (~1%), CBN (<1%) Limonene, Caryophyllene Research-Grade Botanical / API Source GACP Indoor Controlled Environment (CMC) Handoff - GMP Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending
Product Code Class Strain THC % CBD % Variable % Minor Cannabinoids Terpene Profile Application Production Certificate of Analysis (COA)	OHB-T1-KLXIII Schedule I Cannabis (>0.3% Δ9-THC) Indica-Hybrid 20-28% <1% ~0.5% CBN (<1%), CBC (<1%) Limonene, Myrcene, Caryophyllene Research-Grade Botanical / API Source GACP Indoor Controlled Environment (CMC) Handoff - GMP Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending
Product Code Class Strain THC % CBD % Variable % Minor Cannabinoids Terpene Profile Application Production Certificate of Analysis (COA)	OHB-T1-G13 Schedule I Cannabis (>0.3% Δ9-THC) Indica-Hybrid 22-24% <1% ~0.5% CBN (<1%), CBG (~1%) Limonene, Myrcene Research-Grade Botanical / API Source GACP Indoor Controlled Environment (CMC) Handoff - GMP Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending
Product Code Class Strain THC % CBD % Variable % Minor Cannabinoids Terpene Profile Application Production Certificate of Analysis (COA)	OHB-T1-BE Schedule I Cannabis (>0.3% Δ9-THC) Indica-Hybrid 20-26% <1% ~1.0% CBG (~1%) Limonene, Myrcene Research-Grade Botanical / API Source GACP Indoor Controlled Environment (CMC) Handoff - GMP Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-T1-ICC
Class	Schedule I Cannabis (>0.3% Δ9-THC)
Strain	Indica-Hybrid
THC %	20-25%
CBD %	<1%
Variable %	~1.0%
Minor Cannabinoids	CBG (~1%)
Terpene Profile	Limonene, Caryophyllene, Linalool
Application	Research-Grade Botanical / API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-T1-LOG
Class	Schedule I Cannabis (>0.3% Δ9-THC)
Strain	Indica-Hybrid
THC %	20-24%
CBD %	<1%
Variable %	~1.0%
Minor Cannabinoids	CBG (~1%)
Terpene Profile	Linalool, Myrcene
Application	Research-Grade Botanical / API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-T1-GP
Class	Schedule I Cannabis (>0.3% Δ9-THC)
Strain	Indica-Hybrid
THC %	17-23%
CBD %	<1%
Variable %	0.5-1.0%
Minor Cannabinoids	CBN (<1%), CBG (~1%)
Terpene Profile	Myrcene, Pinene, Caryophyllene
Application	Research-Grade Botanical / API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-T1-AB
Class	Schedule I Cannabis (>0.3% Δ9-THC)
Strain	Indica-Hybrid
THC %	18-22%
CBD %	<1%
Variable %	~1.0%
Minor Cannabinoids	CBG (~1%)
Terpene Profile	Myrcene, Caryophyllene
Application	Research-Grade Botanical / API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-T1-B
Class	Schedule I Cannabis (>0.3% Δ9-THC)
Strain	Indica-Hybrid
THC %	15-24%
CBD %	<1%
Variable %	~0.5%
Minor Cannabinoids	CBN (<1%), CBG (~1%)
Terpene Profile	Myrcene, Caryophyllene, Pinene
Application	Research-Grade Botanical / API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-T1-SH
Class	Schedule I Cannabis (>0.3% Δ9-THC)
Strain	Indica-Hybrid
THC %	17-22%
CBD %	<1%
Variable %	~0.5%
Minor Cannabinoids	CBN (<1%)
Terpene Profile	Myrcene, Caryophyllene
Application	Research-Grade Botanical / API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-T1-PP
Class	Schedule I Cannabis (>0.3% Δ9-THC)
Strain	Indica-Hybrid
THC %	18-20%
CBD %	<1%
Variable %	0.2-1.0%
Minor Cannabinoids	THCV (<1%), CBG (~1%)
Terpene Profile	Caryophyllene, Limonene, Pinene
Application	Research-Grade Botanical / API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-T1-9PH
Class	Schedule I Cannabis (>0.3% Δ9-THC)
Strain	Indica-Hybrid
THC %	17-21%
CBD %	<1%
Variable %	0.5-1.0%
Minor Cannabinoids	CBN (<1%), CBG (~1%)
Terpene Profile	Myrcene, Pinene, Caryophyllene
Application	Research-Grade Botanical / API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-T1-NL
Class	Schedule I Cannabis (>0.3% Δ9-THC)
Strain	Indica-Hybrid
THC %	15-21%
CBD %	<1%
Variable %	0.5-1.0%
Minor Cannabinoids	CBN (<1%), CBG (~1%)
Terpene Profile	Myrcene, Caryophyllene, Pinene
Application	Research-Grade Botanical / API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-T1-HK
Class	Schedule I Cannabis (>0.3% Δ9-THC)
Strain	Indica-Hybrid
THC %	15-20%
CBD %	<1%
Variable %	~0.5%
Minor Cannabinoids	CBN (<1%), CBC (<1%)
Terpene Profile	Limonene, Caryophyllene, Myrcene
Application	Research-Grade Botanical / API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

TYPE I SATIVA DOMINANT (High THC / Low CBD) - 9 chemovars in this class

Product Code	OHB-T1-GTH — OHANA XT-23™
Class	Schedule I Cannabis (>0.3% Δ9-THC)
Strain	Sativa-Hybrid (80/20)
THC %	18-28%
CBD %	<1%
Variable %	0.09–0.8%
Minor Cannabinoids	CBG 0.2–0.6%; CBC trace; THCV ~0.5%
Terpene Profile	Terpinolene (dominant); Myrcene; Limonene; Caryophyllene; Pinene
Application	Research-Grade Botanical / API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-T1-AG
Class	Schedule I Cannabis (>0.3% Δ9-THC)
Strain	Sativa-Hybrid
THC %	20-24%
CBD %	<1%
Variable %	0.5-0.8%
Minor Cannabinoids	THCV (~0.5-0.8%), CBG (~1%)
Terpene Profile	Caryophyllene, Myrcene
Application	Research-Grade Botanical / API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-T1-SD
Class	Schedule I Cannabis (>0.3% Δ9-THC)
Strain	Sativa-Hybrid
THC %	18-26%
CBD %	<0.2%
Variable %	~1.0%
Minor Cannabinoids	CBG (~1%), THCV (<1%)
Terpene Profile	Caryophyllene, Limonene
Application	Research-Grade Botanical / API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-T1-CD
Class	Schedule I Cannabis (>0.3% Δ9-THC)
Strain	Sativa-Hybrid
THC %	18-24%
CBD %	<0.1%
Variable %	~1.0%
Minor Cannabinoids	CBG (~1%)
Terpene Profile	Caryophyllene, Limonene
Application	Research-Grade Botanical / API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-T1-DP
Class	Schedule I Cannabis (>0.3% Δ9-THC)
Strain	Sativa-Hybrid
THC %	16-25%
CBD %	<0.2%
Variable %	0.5-1.5%
Minor Cannabinoids	THCV (~1-2%), CBG (~1%)
Terpene Profile	Terpinolene, Myrcene, Ocimene
Application	Research-Grade Botanical / API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-T1-BD
Class	Schedule I Cannabis (>0.3% Δ9-THC)
Strain	Sativa-Hybrid
THC %	17-24%
CBD %	<0.2%
Variable %	~1.0%
Minor Cannabinoids	CBG (~1%), CBN (<1%)
Terpene Profile	Myrcene, Pinene, Caryophyllene
Application	Research-Grade Botanical / API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-T1-JH
Class	Schedule I Cannabis (>0.3% Δ9-THC)
Strain	Sativa-Hybrid
THC %	15-24%
CBD %	<1%
Variable %	~1.0%
Minor Cannabinoids	CBG (~1%), CBN (<1%)
Terpene Profile	Terpinolene, Caryophyllene, Pinene
Application	Research-Grade Botanical / API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-T1-SLH
Class	Schedule I Cannabis (>0.3% Δ9-THC)
Strain	Sativa-Hybrid
THC %	16-22%
CBD %	<1%
Variable %	~1.0%
Minor Cannabinoids	CBG (~1%), CBN (<1%)
Terpene Profile	Terpinolene, Caryophyllene
Application	Research-Grade Botanical / API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-T1-C
Class	Schedule I Cannabis (>0.3% Δ9-THC)
Strain	Sativa-Hybrid
THC %	12-16%
CBD %	<0.1%
Variable %	~1.0%
Minor Cannabinoids	CBG (~1%)
Terpene Profile	Terpinolene, Myrcene
Application	Research-Grade Botanical / API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

TYPE I 1:1 HYBRID (High THC / Low-to-Trace CBD) - 11 chemovars in this class

Product Code	OHB-T1-GG4 — OHANA XT-26™
Class	Schedule I Cannabis (>0.3% Δ9-THC)
Strain	Indica-Dominant Hybrid (~63/37)
THC %	20-32%
CBD %	<1%
Variable %	<0.2–1%
Minor Cannabinoids	CBG 0.1–1.0%; CBC 0.1–0.4%; CBN <1%
Terpene Profile	Caryophyllene (dominant); Limonene; Myrcene; Humulene
Application	Research-Grade Botanical / API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-T1-TH
Class	Schedule I Cannabis (>0.3% Δ9-THC)
Strain	1:1 Hybrid
THC %	22-28%
CBD %	<1%
Variable %	~1.0%
Minor Cannabinoids	CBG (~1%), CBN (<1%)
Terpene Profile	Terpinolene, Myrcene
Application	Research-Grade Botanical / API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-T1-R
Class	Schedule I Cannabis (>0.3% Δ9-THC)
Strain	1:1 Hybrid
THC %	19-29%
CBD %	<1%
Variable %	~0.5%
Minor Cannabinoids	CBN (<1%)
Terpene Profile	Caryophyllene, Limonene, Linalool
Application	Research-Grade Botanical / API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-T1-SDU
Class	Schedule I Cannabis (>0.3% Δ9-THC)
Strain	1:1 Hybrid
THC %	20-26%
CBD %	<1%
Variable %	~1.0%
Minor Cannabinoids	CBG (~1%)
Terpene Profile	Caryophyllene
Application	Research-Grade Botanical / API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-T1-OGK
Class	Schedule I Cannabis (>0.3% Δ9-THC)
Strain	1:1 Hybrid
THC %	19-26%
CBD %	<0.3%
Variable %	~1.0%
Minor Cannabinoids	CBG (~1%), CBC (<1%)
Terpene Profile	Myrcene, Limonene, Caryophyllene
Application	Research-Grade Botanical / API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-T1-GP2
Class	Schedule I Cannabis (>0.3% Δ9-THC)
Strain	1:1 Hybrid
THC %	20-25%
CBD %	<1%
Variable %	~1.0%
Minor Cannabinoids	CBG (~1%)
Terpene Profile	Caryophyllene, Limonene
Application	Research-Grade Botanical / API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-T1-GEL
Class	Schedule I Cannabis (>0.3% Δ9-THC)
Strain	1:1 Hybrid
THC %	20-25%
CBD %	<1%
Variable %	~1.0%
Minor Cannabinoids	CBG (~1%)
Terpene Profile	Caryophyllene, Limonene, Humulene
Application	Research-Grade Botanical / API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-T1-GSC
Class	Schedule I Cannabis (>0.3% Δ9-THC)
Strain	1:1 Hybrid
THC %	17-28%
CBD %	<0.2%
Variable %	~1.0%
Minor Cannabinoids	THCV (<1%), CBG (~1%), CBC (<1%)
Terpene Profile	Caryophyllene, Limonene, Humulene
Application	Research-Grade Botanical / API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-T1-M1
Class	Schedule I Cannabis (>0.3% Δ9-THC)
Strain	1:1 Hybrid
THC %	20-23%
CBD %	<1%
Variable %	1.0-1.5%
Minor Cannabinoids	CBG (~1%)
Terpene Profile	Limonene, Caryophyllene, Pinene
Application	Research-Grade Botanical / API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-T1-PM
Class	Schedule I Cannabis (>0.3% Δ9-THC)
Strain	1:1 Hybrid
THC %	16-21%
CBD %	<1%
Variable %	~1.0%
Minor Cannabinoids	CBG (~1%)
Terpene Profile	Myrcene, Pinene
Application	Research-Grade Botanical / API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-T1-CDW
Class	Schedule I Cannabis (>0.3% Δ9-THC)
Strain	1:1 Hybrid
THC %	15-20%
CBD %	<1%
Variable %	~1.0%
Minor Cannabinoids	CBG (~1%), CBC (<1%)
Terpene Profile	Caryophyllene, Limonene, Myrcene
Application	Research-Grade Botanical / API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

TYPE II BALANCED THC: CBD (Est. 1:1 to 1:3 Ratio) - 8 chemovars in this class

Product Code	OHB-T2-C
Class	Schedule I Cannabis (>0.3% Δ9-THC)
Strain	Hybrid
THC %	4-15%
CBD %	6-17%
Variable %	~1.5%
Minor Cannabinoids	CBG (~1%), CBC (<1%)
Terpene Profile	Myrcene, Pinene, Linalool
Application	Research-Grade Botanical / API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-T2-SSW
Class	Schedule I Cannabis (>0.3% Δ9-THC)
Strain	Indica-Hybrid
THC %	5-11%
CBD %	5-11%
Variable %	~1.0%
Minor Cannabinoids	CBG (~1%)
Terpene Profile	Myrcene, Terpinolene
Application	Research-Grade Botanical / API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-T2-CM
Class	Schedule I Cannabis (>0.3% Δ9-THC)
Strain	Balanced Hybrid
THC %	5-10%
CBD %	5-10%
Variable %	~1.0%
Minor Cannabinoids	CBG (~1%), CBC (<1%)
Terpene Profile	Myrcene, Caryophyllene
Application	Research-Grade Botanical / API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-T2-N
Class	Schedule I Cannabis (>0.3% Δ9-THC)
Strain	Sativa-Hybrid
THC %	5-8%
CBD %	5-12%
Variable %	0.5-1.0%
Minor Cannabinoids	CBG (~1%)
Terpene Profile	Pinene, Myrcene
Application	Research-Grade Botanical / API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-T2-ST
Class	Schedule I Cannabis (>0.3% Δ9-THC)
Strain	Sativa-Hybrid
THC %	1-11%
CBD %	10-11%
Variable %	1.0-2.5%
Minor Cannabinoids	CBG (~1%), CBC (<1%)
Terpene Profile	Myrcene, Terpinolene
Application	Research-Grade Botanical / API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-T2-JL
Class	Schedule I Cannabis (>0.3% Δ9-THC)
Strain	Balanced Hybrid
THC %	4-8%
CBD %	4-8%
Variable %	~1.0%
Minor Cannabinoids	CBG (~1%)
Terpene Profile	Myrcene, Pinene, Caryophyllene
Application	Research-Grade Botanical / API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-T2-H
Class	Schedule I Cannabis (>0.3% Δ9-THC)
Strain	Sativa-Hybrid
THC %	4-7%
CBD %	8-16%
Variable %	~1.0%
Minor Cannabinoids	CBG (~1%), CBC (<1%)
Terpene Profile	Myrcene, Pinene
Application	Research-Grade Botanical / API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

TYPE III CBD DOMINANT / VARIABLE-THC (THC Varies by Entry) 29 chemovars

Product Code	OHB-T3-AD
Class	Hemp / Low-THC Cannabis (<1%)
Strain	Sativa-Hybrid
THC %	1-6%
CBD %	15-20%
Variable %	1.0-2.0%
Minor Cannabinoids	THCV (~0.5%), CBG (~1%)
Terpene Profile	Myrcene, Pinene
Application	Research-Grade Botanical / Hemp API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-T3-SOG
Class	Hemp / Low-THC Cannabis (<4%)
Strain	CBD Dominant
THC %	1-4%
CBD %	10-14%
Variable %	~1.0%
Minor Cannabinoids	CBG (~1%), CBC (<1%)
Terpene Profile	Myrcene, Caryophyllene, Limonene
Application	Research-Grade Botanical / Hemp API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-T3-RB
Class	Hemp / Low-THC Cannabis (<3%)
Strain	CBD Dominant
THC %	1-3%
CBD %	10-12%
Variable %	~1.0%
Minor Cannabinoids	CBC (~1%), CBG (<1%)
Terpene Profile	Myrcene, Caryophyllene
Application	Research-Grade Botanical / Hemp API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-T3-SS
Class	Hemp / Low-THC Cannabis (<3%)
Strain	CBD Dominant
THC %	1-3%
CBD %	10-18%
Variable %	1.5-3.0%
Minor Cannabinoids	CBC (~1.5%), CBDV (~1%), CBG (<1%)
Terpene Profile	Myrcene, Caryophyllene, Pinene
Application	Research-Grade Botanical / Hemp API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-T3-SWH
Class	Hemp / Low-THC Cannabis (<3%)
Strain	CBD Dominant
THC %	1-3%
CBD %	10-15%
Variable %	~1.0%
Minor Cannabinoids	CBG (~1%), CBC (<1%)
Terpene Profile	Terpinolene, Myrcene
Application	Research-Grade Botanical / Hemp API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-T3-CHW
Class	Hemp / Low-THC Cannabis (<3%)
Strain	CBD Dominant
THC %	1-3%
CBD %	10-18%
Variable %	~2.0%
Minor Cannabinoids	CBC (~2%), CBG (<1%)
Terpene Profile	Myrcene, Caryophyllene, Pinene
Application	Research-Grade Botanical / Hemp API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-T3-RH
Class	Hemp / Low-THC Cannabis (<3%)
Strain	CBD Dominant
THC %	1-3%
CBD %	12-15%
Variable %	~1.0%
Minor Cannabinoids	CBG (~1%), CBC (<1%)
Terpene Profile	Terpinolene, Myrcene
Application	Research-Grade Botanical / Hemp API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-T3-BK
Class	Hemp / Low-THC Cannabis (<3%)
Strain	CBD Dominant
THC %	1-3%
CBD %	10-15%
Variable %	~1.0%
Minor Cannabinoids	CBN (<1%), CBC (~1%), CBG (<1%)
Terpene Profile	Caryophyllene, Limonene, Humulene
Application	Research-Grade Botanical / Hemp API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-T3-BO
Class	Hemp / Low-THC Cannabis (<3%)
Strain	CBD Dominant
THC %	1-3%
CBD %	10-14%
Variable %	1.0-2.0%
Minor Cannabinoids	CBC (~1%), CBG (<1%)
Terpene Profile	Myrcene, Caryophyllene
Application	Research-Grade Botanical / Hemp API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-T3-T1
Class	Hemp / Low-THC Cannabis (<3%)
Strain	CBD Dominant
THC %	1-3%
CBD %	10-16%
Variable %	1.0-2.0%
Minor Cannabinoids	CBC (~1%), CBG (<1%)
Terpene Profile	Myrcene, Pinene, Caryophyllene
Application	Research-Grade Botanical / Hemp API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-T3-OII
Class	Hemp / Low-THC Cannabis (<3%)
Strain	CBD Dominant
THC %	1-3%
CBD %	10-15%
Variable %	~1.5%
Minor Cannabinoids	CBC (~1.5%), CBDV (<1%), CBG (<1%)
Terpene Profile	Myrcene, Caryophyllene
Application	Research-Grade Botanical / Hemp API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-T3-CB
Class	Hemp / Low-THC Cannabis (<3%)
Strain	CBD Dominant
THC %	1-3%
CBD %	10-16%
Variable %	~1.0%
Minor Cannabinoids	CBC (~1%), CBG (<1%)
Terpene Profile	Myrcene, Caryophyllene
Application	Research-Grade Botanical / Hemp API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-T3-BB
Class	Hemp / Low-THC Cannabis (<3%)
Strain	CBD Dominant
THC %	1-3%
CBD %	10-17%
Variable %	~1.0%
Minor Cannabinoids	CBC (~1%), CBG (<1%)
Terpene Profile	Myrcene, Caryophyllene
Application	Research-Grade Botanical / Hemp API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-T3-CD
Class	Hemp / Low-THC Cannabis (<3%)
Strain	CBD Dominant
THC %	1-3%
CBD %	10-16%
Variable %	1.0-2.5%
Minor Cannabinoids	CBC (~1%), CBDV (<1%), CBG (<1%)
Terpene Profile	Myrcene, Terpinolene, Pinene
Application	Research-Grade Botanical / Hemp API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-T3-RG
Class	Hemp / Low-THC Cannabis (<1%)
Strain	Hybrid
THC %	<1%
CBD %	15-20%
Variable %	~1.0%
Minor Cannabinoids	CBG (~1%), CBN (<1%)
Terpene Profile	Myrcene, Pinene
Application	Research-Grade Botanical / Hemp API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-T3-SQ
Class	Hemp / Low-THC Cannabis (<1%)
Strain	Indica-Hybrid
THC %	<1%
CBD %	15-25%
Variable %	~1.0%
Minor Cannabinoids	CBC (~1%), CBG (<1%)
Terpene Profile	Pinene
Application	Research-Grade Botanical / Hemp API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-T3-SG
Class	Hemp / Low-THC Cannabis (<1%)
Strain	Indica-Hybrid
THC %	<1%
CBD %	12-18%
Variable %	~1.0%
Minor Cannabinoids	CBG (~1%)
Terpene Profile	Myrcene
Application	Research-Grade Botanical / Hemp API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-T3-VX
Class	Hemp / Low-THC Cannabis (<1%)
Strain	Indica-Hybrid
THC %	<1%
CBD %	15-25%
Variable %	1.0-2.0%
Minor Cannabinoids	CBDV (~1%), CBC (~1%), CBG (<1%)
Terpene Profile	Myrcene, Pinene
Application	Research-Grade Botanical / Hemp API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-T3-HT
Class	Hemp / Low-THC Cannabis (<1%)
Strain	Indica-Hybrid
THC %	<1%
CBD %	18-22%
Variable %	~1.0%
Minor Cannabinoids	CBC (~1%), CBG (<1%)
Terpene Profile	Myrcene, Terpinolene
Application	Research-Grade Botanical / Hemp API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-T3-RE
Class	Hemp / Low-THC Cannabis (<1%)
Strain	Indica-Hybrid
THC %	<1%
CBD %	12-15%
Variable %	~1.0%
Minor Cannabinoids	CBG (~1%), CBC (~1%)
Terpene Profile	Myrcene, Pinene
Application	Research-Grade Botanical / Hemp API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-T3-HH
Class	Hemp (<0.3% Δ9-THC, USDA Compliant)
Strain	Sativa-Hybrid
THC %	<0.3%
CBD %	15-20%
Variable %	1.0-2.0%
Minor Cannabinoids	CBG (~1%), CBC (<1%)
Terpene Profile	Myrcene, Pinene
Application	Research-Grade Botanical / Hemp API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-T3-CW
Class	Hemp (<0.3% Δ9-THC, USDA Compliant)
Strain	Sativa-Hybrid
THC %	<0.3%
CBD %	12-20%
Variable %	1.0-3.0%
Minor Cannabinoids	CBG (~0.5%), CBC (<1%)
Terpene Profile	Myrcene, Caryophyllene
Application	Research-Grade Botanical / Hemp API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-T3-L
Class	Hemp (<0.3% Δ9-THC, USDA Compliant)
Strain	Hybrid
THC %	<0.3%
CBD %	14-20%
Variable %	~1.5%
Minor Cannabinoids	CBG (~0.5%), CBC (~1%)
Terpene Profile	Myrcene, Caryophyllene
Application	Research-Grade Botanical / Hemp API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-T3-SSC
Class	Hemp (<0.3% Δ9-THC, USDA Compliant)
Strain	Hybrid
THC %	<0.3%
CBD %	15-20%
Variable %	1.0-2.0%
Minor Cannabinoids	CBG (~1%), CBC (<1%)
Terpene Profile	Myrcene, Terpinolene
Application	Research-Grade Botanical / Hemp API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-T3-EH
Class	Hemp (<0.3% Δ9-THC, USDA Compliant)
Strain	Hybrid
THC %	<0.3%
CBD %	14-18%
Variable %	1.0-2.5%
Minor Cannabinoids	CBG (~1%), CBC (~1%)
Terpene Profile	Myrcene, Pinene
Application	Research-Grade Botanical / Hemp API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-T3-T
Class	Hemp (<0.3% Δ9-THC, EU Certified)
Strain	Hungarian Hemp
THC %	<0.2%
CBD %	1-3%
Variable %	~1.0%
Minor Cannabinoids	CBG (~1%)
Terpene Profile	Myrcene, Pinene
Application	Industrial Hemp / API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-T3-MA
Class	Hemp (<0.3% Δ9-THC, EU Certified)
Strain	French Hemp
THC %	<0.2%
CBD %	1-3%
Variable %	~1.0%
Minor Cannabinoids	CBG (~1%)
Terpene Profile	Myrcene, Pinene
Application	Industrial Hemp / API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-T3-F17
Class	Hemp (<0.3% Δ9-THC, EU Certified)
Strain	French Hemp
THC %	<0.2%
CBD %	1.5-3%
Variable %	~1.0%
Minor Cannabinoids	CBG (~1%)
Terpene Profile	Myrcene, Pinene
Application	Industrial Hemp / API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

TYPE IV CBG Dominant (Low THC / Low CBD / High CBG) - 19 chemovars

Product Code	OHB-T4-SG
Class	Hemp / Low-THC (<0.3% Δ9-THC)
Strain	Sativa-Hybrid
THC %	<1%
CBD %	<1%
Variable %	0.12
Minor Cannabinoids	CBG (10-15%)
Terpene Profile	Caryophyllene
Application	Research-Grade Botanical / CBG API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-T4-LC
Class	Hemp / Low-THC (<0.3% Δ9-THC)
Strain	Sativa-Hybrid
THC %	<1%
CBD %	<1%
Variable %	0.1
Minor Cannabinoids	CBG (10-15%)
Terpene Profile	Myrcene, Caryophyllene, Limonene
Application	Research-Grade Botanical / CBG API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-H-EC
Class	Hemp (<0.6% Δ9-THC, EU Certified)
Strain	Italian Hemp
THC %	<0.6%
CBD %	up to 5%
Variable %	TBD
Minor Cannabinoids	Industrial cultivar; CBD can sometimes exceed 5%
Terpene Profile	Myrcene, Caryophyllene
Application	Industrial Hemp / API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-H-C
Class	Hemp (<0.6% Δ9-THC, EU Certified)
Strain	Italian Hemp
THC %	<0.6%
CBD %	1-5%
Variable %	TBD
Minor Cannabinoids	Phenotype-dependent industrial cultivar
Terpene Profile	Myrcene
Application	Industrial Hemp / API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-T4-W
Class	Hemp / Low-THC (<0.3% Δ9-THC)
Strain	Hybrid
THC %	<0.3%
CBD %	<1%
Variable %	0.12
Minor Cannabinoids	CBG (10-20%)
Terpene Profile	Bisabolol, Caryophyllene
Application	Research-Grade Botanical / CBG API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-H-F
Class	Hemp (<0.3% Δ9-THC, EU Certified)
Strain	Finnish Hemp
THC %	<0.3%
CBD %	0-3%
Variable %	TBD
Minor Cannabinoids	Auto-flowering industrial cultivar for oilseed
Terpene Profile	Myrcene
Application	Industrial Hemp / API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-H-T
Class	Hemp (<0.2% Δ9-THC, EU Certified)
Strain	Hungarian Hemp
THC %	<0.2%
CBD %	2-3%
Variable %	TBD
Minor Cannabinoids	Industrial cultivar bred for fiber and cannabinoids
Terpene Profile	Myrcene, Pinene
Application	Industrial Hemp / API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-H-MFH
Class	Hemp (<0.2% Δ9-THC, EU Certified)
Strain	French Hemp
THC %	<0.2%
CBD %	2-3%
Variable %	TBD
Minor Cannabinoids	Category of industrial hemp strains
Terpene Profile	Myrcene, Pinene
Application	Industrial Hemp / API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-H-KCD
Class	Hemp (<0.2% Δ9-THC, EU Certified)
Strain	Hungarian Hemp
THC %	<0.2%
CBD %	2-3%
Variable %	TBD
Minor Cannabinoids	Industrial cultivar
Terpene Profile	Myrcene, Pinene
Application	Industrial Hemp / API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-H-KHTC
Class	Hemp (<0.2% Δ9-THC, EU Certified)
Strain	Hungarian Hemp
THC %	<0.2%
CBD %	2-3%
Variable %	TBD
Minor Cannabinoids	Industrial cultivar
Terpene Profile	Myrcene, Pinene
Application	Industrial Hemp / API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-H-KCV
Class	Hemp (<0.2% Δ9-THC, EU Certified)
Strain	Hungarian Hemp
THC %	<0.2%
CBD %	2-3%
Variable %	TBD
Minor Cannabinoids	Industrial cultivar
Terpene Profile	Myrcene, Pinene
Application	Industrial Hemp / API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-H-F17
Class	Hemp (<0.1% Δ9-THC, EU Certified)
Strain	French Hemp
THC %	<0.2%
CBD %	1.5-3%
Variable %	TBD
Minor Cannabinoids	Industrial cultivar
Terpene Profile	Myrcene, Pinene
Application	Industrial Hemp / API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-H-F32
Class	Hemp (<0.2% Δ9-THC, EU Certified)
Strain	French Hemp
THC %	<0.2%
CBD %	2-3%
Variable %	TBD
Minor Cannabinoids	Industrial cultivar
Terpene Profile	Myrcene, Pinene
Application	Industrial Hemp / API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-H-FE
Class	Hemp (<0.2% Δ9-THC, EU Certified)
Strain	French Hemp
THC %	<0.2%
CBD %	1-2.5%
Variable %	TBD
Minor Cannabinoids	Industrial cultivar
Terpene Profile	Myrcene
Application	Industrial Hemp / API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-H-B
Class	Hemp (<0.2% Δ9-THC, EU Certified)
Strain	Polish Hemp
THC %	<0.2%
CBD %	~2.5%
Variable %	TBD
Minor Cannabinoids	Industrial cultivar
Terpene Profile	Myrcene
Application	Industrial Hemp / API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-H-S27
Class	Hemp (<0.2% Δ9-THC, EU Certified)
Strain	French Hemp
THC %	<0.2%
CBD %	up to 3%
Variable %	TBD
Minor Cannabinoids	Industrial cultivar
Terpene Profile	Myrcene, Pinene
Application	Industrial Hemp / API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-H-WJ
Class	Hemp (<0.2% Δ9-THC, EU Certified)
Strain	Polish Hemp
THC %	<0.2%
CBD %	1-3%
Variable %	TBD
Minor Cannabinoids	Industrial cultivar
Terpene Profile	Myrcene
Application	Industrial Hemp / API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-H-S70
Class	Hemp (<0.12% Δ9-THC, EU Certified)
Strain	French Hemp
THC %	<0.12%
CBD %	2-3%
Variable %	TBD
Minor Cannabinoids	Industrial cultivar
Terpene Profile	Myrcene, Pinene
Application	Industrial Hemp / API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending

Product Code	OHB-T4-JF
Class	Hemp / Low-THC (<0.3% Δ9-THC)
Strain	Sativa-Hybrid
THC %	<0.1%
CBD %	<1%
Variable %	10.0-15.0%
Minor Cannabinoids	CBG (10-15%)
Terpene Profile	Pinene, Caryophyllene
Application	Research-Grade Botanical / CBG API Source
Production	GACP Indoor Controlled Environment (CMC) Handoff - GMP
Certificate of Analysis (COA)	Internal testing, meeting GACP, GMP, and EU-GMP standards to support our CMC documentation. COA Reference: Pending



SECTION 3 - Extracts & Concentrates - for Institutional Research, NIH/NIDA-Aligned Studies, WHO Scheduling Review, and Pharmaceutical CMC Development

This section presents OHANA Bio Pharma's cannabinoid extract and concentrate portfolio — DEA Drug Code 7350 (Marijuana Extract) and Drug Code 7370 (Tetrahydrocannabinols) materials — produced for institutional research investigators, NIH- and NIDA-affiliated research programs, WHO Expert Committee on Drug Dependence (ECDD) reference use, and pharmaceutical development partners engaged in Chemistry, Manufacturing & Controls (CMC) and Investigational New Drug (IND)-enabling programs. Every batch is accompanied by a Certificate of Analysis generated by chromatography and mass spectrometry, documenting cannabinoid potency, confirming the absence of harmful residual solvents, and reporting a full terpene profile — derived exclusively from natural, plant-based *Cannabis sativa* L. and never from synthetic inputs. All materials are produced under a continuous quality framework spanning Good Agricultural and Collection Practices (GACP) cultivation, Good Manufacturing Practice (GMP) and EU-GMP-aligned extraction and processing, and full batch-level Certificate of Analysis (COA) documentation.



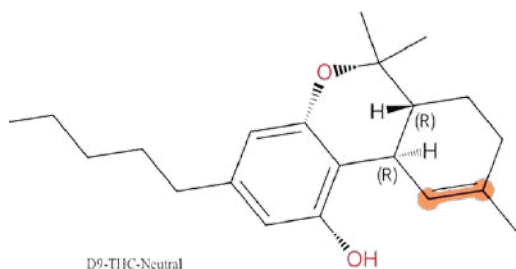
Products in This Section

1. **OHB-EX-001** — THC-Rich Full-Spectrum Extract — Research & Pharmaceutical Feedstock Grade
2. **OHB-EX-002** — CBD-Rich Full-Spectrum Extract — Research Grade
3. **OHB-EX-003** — THC Distillate — High-Purity API Feedstock Grade
4. **OHB-EX-004** — CBD Distillate (Broad Spectrum) — Non-Psychoactive Research Grade
5. **OHB-EX-005** — Balanced THC:CBD Extract (1:1) — Entourage Research Grade
6. **OHB-EX-006** — CBG-Enriched Extract — Minor Cannabinoid Research Grade
7. **OHB-EX-007** — Minor Cannabinoid Blend Extract — Combinatorial Research Grade
8. **OHB-EX-008** — Hash Oil / Budder / Wax / Shatter — Concentrate Safety Research Grade
9. **OHB-EX-009** — Placebo Crude Extract — Matched Blinded-Trial Control Grade
10. **OHB-EX-010** — CO2 Extract (Supercritical) — Process-Comparison Research Grade
11. **OHB-EX-011** — Cold Ethanol Extract (Inhalation) — Standardized Research Grade
12. **OHB-EX-012** — Hot Ethanol Extract (Ingestion) — Standardized Research Grade

ACCESS & ELIGIBILITY NOTICE

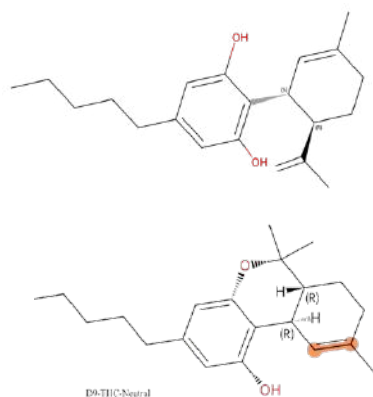
Cannabinoid extracts and concentrates in this section (excluding the non-controlled placebo vehicle) are DEA Schedule I controlled substances (Drug Code 7350 or 7370) intended exclusively for research, clinical development, and regulatory-review use. Distribution is restricted to institutions holding an active DEA Schedule I researcher registration, and, where applicable, current IRB approval and/or an active FDA IND. These products are not for human consumption, resale, or commercial distribution.

OHB-EX-001-THC-Rich Full-Spectrum Extract - Research & Pharmaceutical Feedstock



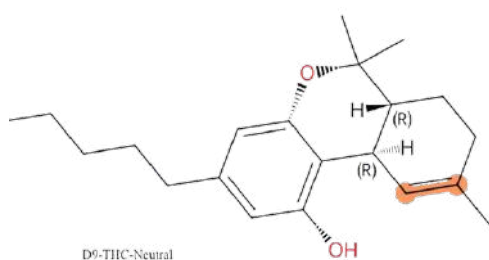
Classification & Botanical source	Full-Spectrum Crude Extract Derived from OHANA GACP-cultivated Cannabis sativa L. plant material.
Profile & Potency	Δ9-THC 50–85% THC (quantified via validated HPLC-UV, ICH Q2(R2))
Extraction & Form	Ethanol extraction (hot or cold), winterized Viscous oil / resin
Regulatory Classification	DEA Schedule I Controlled Substance — Drug Code 7350 (Marijuana Extract, >0.3% Δ9-THC), 21 CFR Part 1301/1308. Recipient institution must hold an active DEA Schedule I researcher registration (or equivalent government authorization) and, for human-subjects' protocols, current IRB approval and an active FDA IND, consistent with NIDA Drug Supply Program request requirements.
Quality & Compliance Standards	Cultivated under Good Agricultural and Collection Practices (GACP) consistent with WHO guidelines on GACP for medicinal plants; extracted and processed under Good Manufacturing Practice (GMP) principles aligned with EU-GMP Annex 7 for herbal medicinal products and 21 CFR Parts 210/211, supporting Chemistry, Manufacturing & Controls (CMC) documentation per ICH Q7.
Research Applications	• Inhalation and vaporization pharmacokinetic/pharmacodynamic studies • High-potency dose-effect and abuse-liability research • Oral-formulation feedstock supporting IND-enabling development • Comparator extract aligned with NIDA Drug Supply Program specifications.
Certificate of Analysis / Analytical Panel	• Cannabinoid potency by validated HPLC-UV (ICH Q2(R2)) • Residual solvents by headspace GC-FID/MS per USP <467> (process-specific: ethanol, hydrocarbon, or CO2 markers) • Terpene profiling by GC-FID / GC-MS • Heavy metals by ICP-MS (USP <233>) • Pesticide residues by LC-MS/MS and GC-MS/MS • Microbial limits per USP <61>/<62>; water activity where applicable • Full COA issued per batch/lot with traceability to source chemovar and extraction lot
Distribution & Chain of Custody	Shipped under DEA-registered controlled-substance chain of custody. Requires a completed Material Transfer/Supply Agreement, a DEA Form 222 or CSOS electronic order (recipient-initiated), and a signed research-use-only end-user certification. Full chain-of-custody documentation is maintained from GACP cultivation through GMP extraction, processing, and shipment.

OHB-EX-002 - CBD-Rich Full-Spectrum Extract - Research Grade



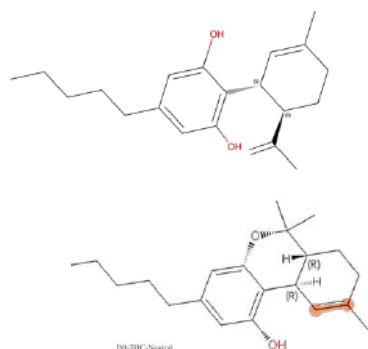
Classification & Botanical Source	Full-Spectrum Crude Extract — Derived from OHANA GACP-cultivated Cannabis sativa L. plant material.
Profile & Potency	Primary Cannabinoid: CBD Potency: 50–75% CBD; Δ9-THC: <0.3% or (custom). (quantified via validated HPLC-UV, ICH Q2(R2))
Extraction & Form	Ethanol / CO2 extraction, winterized Form: Viscous oil
Regulatory Classification	DEA Schedule I Controlled Substance — Drug Code 7350 (Marijuana Extract, >0.3% Δ9-THC), 21 CFR Part 1301/1308. Recipient institution must hold an active DEA Schedule I researcher registration (or equivalent government authorization) and, for human-subjects' protocols, current IRB approval and an active FDA IND, consistent with NIDA Drug Supply Program request requirements.
Quality & Compliance Standards	Cultivated under Good Agricultural and Collection Practices (GACP) consistent with WHO guidelines on GACP for medicinal plants; extracted and processed under Good Manufacturing Practice (GMP) principles aligned with EU-GMP Annex 7 for herbal medicinal products and 21 CFR Parts 210/211, supporting Chemistry, Manufacturing & Controls (CMC) documentation per ICH Q7.
Research Applications	• CBD efficacy and whole-plant extract mechanism-of-action studies • Entourage-effect and cannabinoid-terpene synergy research • Oral/sublingual formulation development supporting 505(b)(2) pathways • Comparative studies referencing FDA-approved CBD botanical drug precedent
Certificate of Analysis / Analytical Panel	• Cannabinoid potency by validated HPLC-UV (ICH Q2(R2)) • Residual solvents by headspace GC-FID/MS per USP <467> (process-specific: ethanol, hydrocarbon, or CO2 markers) • Terpene profiling by GC-FID / GC-MS • Heavy metals by ICP-MS (USP <233>) • Pesticide residues by LC-MS/MS and GC-MS/MS • Microbial limits per USP <61>/<62>; water activity where applicable • Full COA issued per batch/lot with traceability to source chemovar and extraction lot
Distribution & Chain of Custody	Shipped under DEA-registered controlled-substance chain of custody. Requires a completed Material Transfer/Supply Agreement, a DEA Form 222 or CSOS electronic order (recipient-initiated), and a signed research-use-only end-user certification. Full chain-of-custody documentation is maintained from GACP cultivation through GMP extraction, processing, and shipment.

OHB-EX-003 - THC Distillate - High-Purity API Feedstock Grade



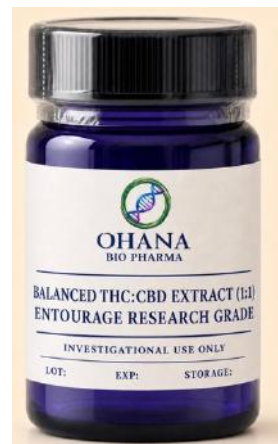
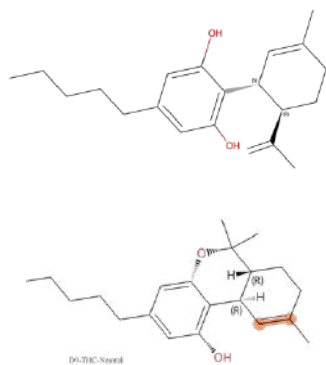
Classification & Botanical Source	Cannabinoid Distillate — Derived from OHANA GACP-cultivated Cannabis sativa L. plant material.
Profile & Potency	Primary Cannabinoid: Δ9-THC Potency: 80–95% THC (quantified via validated HPLC-UV, ICH Q2(R2))
Extraction & Form	Short-path distillation Form: Amber oil
Regulatory Classification	DEA Schedule I Controlled Substance — Drug Code 7370 (Tetrahydrocannabinols; high-purity distillate/isolate preparations classified separately from crude marijuana extract per the DEA Controlled Substance Code list), 21 CFR Part 1301/1308]. Recipient institution must hold an active DEA Schedule I researcher registration and, for human-subjects' protocols, current IRB approval and an active FDA IND.
Quality & Compliance Standards	Cultivated under Good Agricultural and Collection Practices (GACP) consistent with WHO guidelines on GACP for medicinal plants; extracted and processed under Good Manufacturing Practice (GMP) principles aligned with EU-GMP Annex 7 for herbal medicinal products and 21 CFR Parts 210/211, supporting Chemistry, Manufacturing & Controls (CMC) documentation per ICH Q7.
Research Applications	• Feedstock for API purification and reference-standard development • Edible/oral IND-enabling formulation studies • Vape-formulation pharmacokinetic research • High-purity comparator material for CMC analytical method validation
Certificate of Analysis / Analytical Panel	• Cannabinoid potency by validated HPLC-UV (ICH Q2(R2)) • Residual solvents by headspace GC-FID/MS per USP <467> (process-specific: ethanol, hydrocarbon, or CO2 markers) • Terpene profiling by GC-FID / GC-MS • Heavy metals by ICP-MS (USP <233>) • Pesticide residues by LC-MS/MS and GC-MS/MS • Microbial limits per USP <61>/<62>; water activity where applicable • Full COA issued per batch/lot with traceability to source chemovar and extraction lot
Distribution & Chain of Custody	Shipped under DEA-registered controlled-substance chain of custody. Requires a completed Material Transfer/Supply Agreement, a DEA Form 222 or CSOS electronic order (recipient-initiated), and a signed research-use-only end-user certification. Full chain-of-custody documentation is maintained from GACP cultivation through GMP extraction, processing, and shipment.

OHB-EX-004 - CBD Distillate (Broad Spectrum) - Non-Psychoactive Research



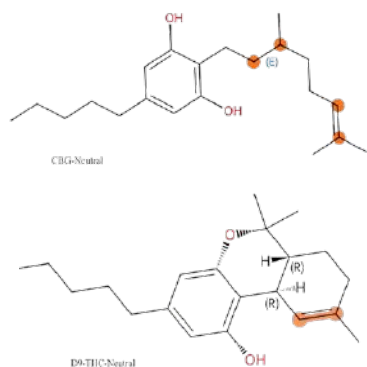
Classification & Botanical Source	Broad-Spectrum Distillate — Derived from OHANA GACP-cultivated <i>Cannabis sativa</i> L. plant material.
Profile & Potency	Primary Cannabinoid: CBD Potency: ≥85% CBD; Δ9-THC: <0.01% (quantified via validated HPLC-UV, ICH Q2(R2))
Extraction & Form	Distillation with THC remediation Form: Amber oil
Regulatory Classification	Formulated to a confirmed Δ9-THC concentration below 0.3% on a dry-weight basis; however, under the amended federal hemp definition (7 U.S.C. §1639o, as revised by Pub. L. No. 119-37, §781, effective 11/12/2026), hemp status is assessed on a total-THC basis (Δ9-THC + THCA + Δ8-THC ≤ 0.3%), not Δ9-THC alone. Pending batch-level confirmatory total-THC testing under the revised standard, this material is documented and shipped under Drug Code 7350 chain-of-custody as a DEA Schedule I Controlled Substance, consistent with OHANA's policy that all cannabinoid materials in this catalog are scheduled and shipped as Schedule I regardless of finished-product THC content.
Quality & Compliance Standards	Cultivated under Good Agricultural and Collection Practices (GACP) consistent with WHO guidelines on GACP for medicinal plants; extracted and processed under Good Manufacturing Practice (GMP) principles aligned with EU-GMP Annex 7 for herbal medicinal products and 21 CFR Parts 210/211, supporting Chemistry, Manufacturing & Controls (CMC) documentation per ICH Q7.
Research Applications	• THC-free / non-psychoactive formulation base for pediatric- and vulnerable-population-relevant research • Comparator material for THC-free study arms in clinical trial design • Regulatory-pathway research distinguishing hemp-exempt from Schedule I cannabinoid materials
Certificate of Analysis / Analytical Panel	• Cannabinoid potency by validated HPLC-UV (ICH Q2(R2)) • Residual solvents by headspace GC-FID/MS per USP <467> (process-specific: ethanol, hydrocarbon, or CO2 markers) • Terpene profiling by GC-FID / GC-MS • Heavy metals by ICP-MS (USP <233>) • Pesticide residues by LC-MS/MS and GC-MS/MS • Microbial limits per USP <61>/<62>; water activity where applicable • Full COA issued per batch/lot with traceability to source chemovar and extraction lot
Distribution & Chain of Custody	Shipped under DEA-registered controlled-substance chain of custody. Requires a completed Material Transfer/Supply Agreement, a DEA Form 222 or CSOS electronic order (recipient-initiated), and a signed research-use-only end-user certification. Full chain-of-custody documentation is maintained from GACP cultivation through GMP extraction, processing, and shipment.

OHB-EX-005 - Balanced THC:CBD Extract (1:1) - Entourage Research Grade



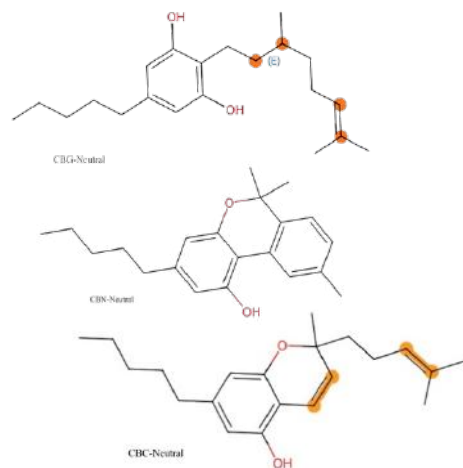
Classification & Botanical Source	Full-Spectrum Crude Extract — Derived from OHANA GACP-cultivated <i>Cannabis sativa</i> L. plant material.
Profile & Potency	Primary Cannabinoid: Δ9-THC + CBD Potency: 20–40% each (quantified via validated HPLC-UV, ICH Q2(R2))
Extraction & Form	Ethanol extraction, winterized Form: Viscous oil
Regulatory Classification	DEA Schedule I Controlled Substance — Drug Code 7350 (Marijuana Extract, >0.3% Δ9-THC), 21 CFR Part 1301/1308. Recipient institution must hold an active DEA Schedule I researcher registration (or equivalent government authorization) and, for human-subjects' protocols, current IRB approval and an active FDA IND, consistent with NIDA Drug Supply Program request requirements.
Quality & Compliance Standards	Cultivated under Good Agricultural and Collection Practices (GACP) consistent with WHO guidelines on GACP for medicinal plants; extracted and processed under Good Manufacturing Practice (GMP) principles aligned with EU-GMP Annex 7 for herbal medicinal products and 21 CFR Parts 210/211, supporting Chemistry, Manufacturing & Controls (CMC) documentation per ICH Q7.
Research Applications	• Synergistic cannabinoid-interaction and entourage-effect research • Chronic pain and multiple sclerosis (MS) spasticity studies (Sativex-type combination reference) • Comparative-effectiveness studies supporting botanical combination-product development
Certificate of Analysis / Analytical Panel	• Cannabinoid potency by validated HPLC-UV (ICH Q2(R2)) • Residual solvents by headspace GC-FID/MS per USP <467> (process-specific: ethanol, hydrocarbon, or CO2 markers) • Terpene profiling by GC-FID / GC-MS • Heavy metals by ICP-MS (USP <233>) • Pesticide residues by LC-MS/MS and GC-MS/MS • Microbial limits per USP <61>/<62>; water activity where applicable • Full COA issued per batch/lot with traceability to source chemovar and extraction lot
Distribution & Chain of Custody	Shipped under DEA-registered controlled-substance chain of custody. Requires a completed Material Transfer/Supply Agreement, a DEA Form 222 or CSOS electronic order (recipient-initiated), and a signed research-use-only end-user certification. Full chain-of-custody documentation is maintained from GACP cultivation through GMP extraction, processing, and shipment.

OHB-EX-006 - CBG-Enriched Extract - Minor Cannabinoid Research Grade



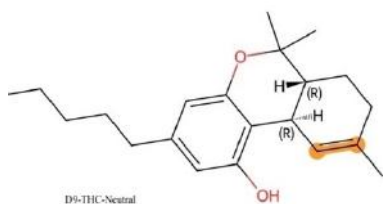
Classification & Botanical Source	Minor-Cannabinoid Extract — Derived from OHANA GACP-cultivated <i>Cannabis sativa</i> L. plant material.
Profile & Potency	Primary Cannabinoid: CBG Potency: 30–60% CBG ; Δ9-THC: <1% (quantified via validated HPLC-UV, ICH Q2(R2))
Extraction & Form	Ethanol / CO2 extraction Form: Viscous oil
Regulatory Classification	DEA Schedule I Controlled Substance — Drug Code 7350 (Marijuana Extract, >0.3% Δ9-THC), 21 CFR Part 1301/1308. Recipient institution must hold an active DEA Schedule I researcher registration (or equivalent government authorization) and, for human-subjects' protocols, current IRB approval and an active FDA IND, consistent with NIDA Drug Supply Program request requirements.
Quality & Compliance Standards	Cultivated under Good Agricultural and Collection Practices (GACP) consistent with WHO guidelines on GACP for medicinal plants; extracted and processed under Good Manufacturing Practice (GMP) principles aligned with EU-GMP Annex 7 for herbal medicinal products and 21 CFR Parts 210/211, supporting Chemistry, Manufacturing & Controls (CMC) documentation per ICH Q7.
Research Applications	• CBG receptor pharmacology (CB1/CB2, TRPV, 5-HT1A) research • Anti-inflammatory and neuroprotective mechanism-of-action studies • Preclinical target-validation and IND-enabling development for novel minor-cannabinoid programs
Certificate of Analysis / Analytical Panel	• Cannabinoid potency by validated HPLC-UV (ICH Q2(R2)) • Residual solvents by headspace GC-FID/MS per USP <467> (process-specific: ethanol, hydrocarbon, or CO2 markers) • Terpene profiling by GC-FID / GC-MS • Heavy metals by ICP-MS (USP <233>) • Pesticide residues by LC-MS/MS and GC-MS/MS • Microbial limits per USP <61>/<62>; water activity where applicable • Full COA issued per batch/lot with traceability to source chemovar and extraction lot
Distribution & Chain of Custody	Shipped under DEA-registered controlled-substance chain of custody. Requires a completed Material Transfer/Supply Agreement, a DEA Form 222 or CSOS electronic order (recipient-initiated), and a signed research-use-only end-user certification. Full chain-of-custody documentation is maintained from GACP cultivation through GMP extraction, processing, and shipment.

OHB-EX-007-Minor Cannabinoid Blend Extract - Research Grade



Classification & Botanical Source	Multi-Cannabinoid Extract — Derived from OHANA GACP-cultivated Cannabis sativa L. plant material.
Profile & Potency	Primary Cannabinoids: CBG + CBC + CBN Potency: Custom ratios, per protocol (quantified via validated HPLC-UV, ICH Q2(R2))
Extraction & Form	Ethanol / CO2 extraction Form: Viscous oil
Regulatory Classification	DEA Schedule I Controlled Substance — Drug Code 7350 (Marijuana Extract, >0.3% Δ9-THC), 21 CFR Part 1301/1308. Recipient institution must hold an active DEA Schedule I researcher registration (or equivalent government authorization) and, for human-subjects' protocols, current IRB approval and an active FDA IND, consistent with NIDA Drug Supply Program request requirements.
Quality & Compliance Standards	Cultivated under Good Agricultural and Collection Practices (GACP) consistent with WHO guidelines on GACP for medicinal plants; extracted and processed under Good Manufacturing Practice (GMP) principles aligned with EU-GMP Annex 7 for herbal medicinal products and 21 CFR Parts 210/211, supporting Chemistry, Manufacturing & Controls (CMC) documentation per ICH Q7 .
Research Applications	• Entourage-effect and polypharmacology research • Combinatorial minor-cannabinoid mechanism-of-action studies • Custom-ratio formulation development for sponsor-specific research protocols
Certificate of Analysis / Analytical Panel	• Cannabinoid potency by validated HPLC-UV (ICH Q2(R2)) • Residual solvents by headspace GC-FID/MS per USP <467> (process-specific: ethanol, hydrocarbon, or CO2 markers) • Terpene profiling by GC-FID / GC-MS • Heavy metals by ICP-MS (USP <233>) • Pesticide residues by LC-MS/MS and GC-MS/MS • Microbial limits per USP <61>/<62>; water activity where applicable • Full COA issued per batch/lot with traceability to source chemovar and extraction lot
Distribution & Chain of Custody	Shipped under DEA-registered controlled-substance chain of custody. Requires a completed Material Transfer/Supply Agreement, a DEA Form 222 or CSOS electronic order (recipient-initiated), and a signed research-use-only end-user certification. Full chain-of-custody documentation is maintained from GACP cultivation through GMP extraction, processing, and shipment.

OHB-EX-008 - Hash Oil/Budder/Wax/Shatter — Concentrate Safety Research Grade



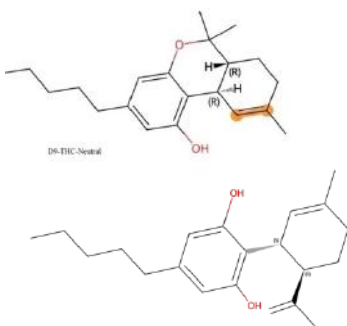
Classification & Botanical Source	Solvent-Based Concentrate — Derived from OHANA GACP-cultivated <i>Cannabis sativa</i> L. plant material.
Profile & Potency	Primary Cannabinoid: Δ9-THC Potency: 60–90% THC (quantified via validated HPLC-UV, ICH Q2(R2))
Extraction & Form	Hydrocarbon / CO2 extraction Form: Various, per concentrate type
Regulatory Classification	DEA Schedule I Controlled Substance — Drug Code 7350 (Marijuana Extract, >0.3% Δ9-THC), 21 CFR Part 1301/1308. Recipient institution must hold an active DEA Schedule I researcher registration (or equivalent government authorization) and, for human-subjects' protocols, current IRB approval and an active FDA IND, consistent with NIDA Drug Supply Program request requirements.
Quality & Compliance Standards	Cultivated under Good Agricultural and Collection Practices (GACP) consistent with WHO guidelines on GACP for medicinal plant; extracted and processed under Good Manufacturing Practice (GMP) principles aligned with EU-GMP Annex 7 for herbal medicinal products and 21 CFR Parts 210/211, supporting Chemistry, Manufacturing & Controls (CMC) documentation per ICH Q7.
Research Applications	• Product-form and consumption-method safety research • Dabbing/inhalation pharmacokinetic studies • Abuse-liability and public-health research on high-potency concentrate forms
Certificate of Analysis / Analytical Panel	• Cannabinoid potency by validated HPLC-UV (ICH Q2(R2)) • Residual solvents by headspace GC-FID/MS per USP <467> (process-specific: ethanol, hydrocarbon, or CO2 markers) • Terpene profiling by GC-FID / GC-MS • Heavy metals by ICP-MS (USP <233>) • Pesticide residues by LC-MS/MS and GC-MS/MS • Microbial limits per USP <61>/<62>; water activity where applicable • Full COA issued per batch/lot with traceability to source chemovar and extraction lot
Distribution & Chain of Custody	Shipped under DEA-registered controlled-substance chain of custody. Requires a completed Material Transfer/Supply Agreement, a DEA Form 222 or CSOS electronic order (recipient-initiated), and a signed research-use-only end-user certification. Full chain-of-custody documentation is maintained from GACP cultivation through GMP extraction, processing, and shipment.

OHB-EX-009 - Placebo Crude Extract — Matched Blinded-Trial Control Grade



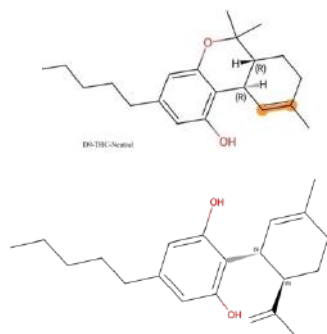
Classification & Botanical Source	Matched Placebo Vehicle — Manufactured within the same DEA-registered, GMP facility as active comparator extracts.
Profile & Potency	Primary Cannabinoid: None Content: 0% Δ9-THC; 0% CBD (confirmed via validated HPLC-UV)
Extraction & Form	Solvent extraction (non-cannabinoid excipient carrier) Form: Oil / resin . No active cannabinoid (placebo).
Regulatory Classification	Non-controlled placebo vehicle — contains no scheduled cannabinoid content (0% Δ9-THC, 0% CBD). Manufactured and packaged within the same DEA-registered, GMP-controlled facility as active comparator products to preserve blinding integrity (matched appearance, viscosity, and odor) for randomized controlled trials.
Quality & Compliance Standards	Cultivated under Good Agricultural and Collection Practices (GACP) consistent with WHO guidelines on GACP for medicinal plants; extracted and processed under Good Manufacturing Practice (GMP) principles aligned with EU-GMP Annex 7 for herbal medicinal products and 21 CFR Parts 210/211, supporting Chemistry, Manufacturing & Controls (CMC) documentation per ICH Q7.
Research Applications	• Blinded randomized controlled trial (RCT) placebo arm / control material • Non-cannabinoid plant-constituent background and matrix-effect research • Matched-formulation studies supporting FDA and NIH trial-design requirements for blinding integrity
Certificate of Analysis / Analytical Panel	• Cannabinoid potency by validated HPLC-UV (ICH Q2(R2)) • Residual solvents by headspace GC-FID/MS per USP <467> (process-specific: ethanol, hydrocarbon, or CO2 markers) • Terpene profiling by GC-FID / GC-MS • Heavy metals by ICP-MS (USP <233>) • Pesticide residues by LC-MS/MS and GC-MS/MS • Microbial limits per USP <61>/<62>; water activity where applicable • Full COA issued per batch/lot with traceability to source chemovar and extraction lot
Distribution & Chain of Custody	Shipped under DEA-registered controlled-substance chain of custody. Requires a completed Material Transfer/Supply Agreement, a DEA Form 222 or CSOS electronic order (recipient-initiated), and a signed research-use-only end-user certification. Full chain-of-custody documentation is maintained from GACP cultivation through GMP extraction, processing, and shipment.

OHB-EX-010 - CO₂ Extract (Supercritical)— Process-Comparison Research Grade



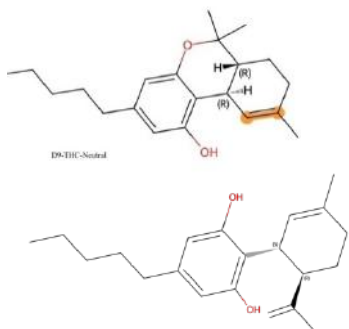
Classification & Botanical Source	Full-Spectrum Crude Extract — Derived from OHANA GACP-cultivated <i>Cannabis sativa</i> L. plant material.
Cannabinoid Profile	Primary Cannabinoid: Δ ⁹ -THC or CBD Potency: 30–70% , variable (quantified via validated HPLC-UV, ICH Q2(R2))
Extraction & Form	Supercritical CO ₂ extraction Form: Viscous oil / wax
Regulatory Classification	DEA Schedule I Controlled Substance — Drug Code 7350 (Marijuana Extract, >0.3% Δ ⁹ -THC), 21 CFR Part 1301/1308. Recipient institution must hold an active DEA Schedule I researcher registration (or equivalent government authorization) and, for human-subjects' protocols, current IRB approval and an active FDA IND, consistent with NIDA Drug Supply Program request requirements.
Quality & Compliance Standards	Cultivated under Good Agricultural and Collection Practices (GACP) consistent with WHO guidelines on GACP for medicinal plants; extracted and processed under Good Manufacturing Practice (GMP) principles aligned with EU-GMP Annex 7 for herbal medicinal products and 21 CFR Parts 210/211, supporting Chemistry, Manufacturing & Controls (CMC) documentation per ICH Q7.
Research Applications	- Extraction-method comparison and process-development research - Solvent-free (“clean-label”) product development studies - Ingestion pharmacokinetic research
Certificate of Analysis / Analytical Panel	- Cannabinoid potency by validated HPLC-UV (ICH Q2(R2)) - Residual solvents by headspace GC-FID/MS per USP <467> (process-specific: ethanol, hydrocarbon, or CO₂ markers) - Terpene profiling by GC-FID / GC-MS - Heavy metals by ICP-MS (USP <233>) - Pesticide residues by LC-MS/MS and GC-MS/MS - Microbial limits per USP <61>/<62>; water activity where applicable - Full COA issued per batch/lot with traceability to source chemovar and extraction lot
Distribution & Chain of Custody	Shipped under DEA-registered controlled-substance chain of custody. Requires a completed Material Transfer/Supply Agreement, a DEA Form 222 or CSOS electronic order (recipient-initiated), and a signed research-use-only end-user certification. Full chain-of-custody documentation is maintained from GACP cultivation through GMP extraction, processing, and shipment.

OHB-EX-011- Cold Ethanol Extract (Inhalation) - Standardized Research Grade



Classification & Botanical Source	Standardized Research Extract — Derived from OHANA GACP-cultivated <i>Cannabis sativa</i> L. plant material.
Cannabinoid Profile	Primary Cannabinoid: Δ9-THC or CBD, variable per protocol Potency: Variable, per specification (quantified via validated HPLC-UV, ICH Q2(R2))
Extraction & Form	Cold ethanol extraction Form: Oil
Regulatory Classification	DEA Schedule I Controlled Substance — Drug Code 7350 (Marijuana Extract, >0.3% Δ9-THC), 21 CFR Part 1301/1308. Recipient institution must hold an active DEA Schedule I researcher registration (or equivalent government authorization) and, for human-subjects' protocols, current IRB approval and an active FDA IND, consistent with NIDA Drug Supply Program request requirements.
Quality & Compliance Standards	Cultivated under Good Agricultural and Collection Practices (GACP) consistent with WHO guidelines on GACP for medicinal plants; extracted and processed under Good Manufacturing Practice (GMP) principles aligned with EU-GMP Annex 7 for herbal medicinal products and 21 CFR Parts 210/211, supporting Chemistry, Manufacturing & Controls (CMC) documentation per ICH Q7.
Research Applications	- Inhalation-delivery and vaporization pharmacokinetic studies - Formulation-route comparability research - Produced to support extraction-method diversity consistent with NIDA-identified research-material priorities.
Certificate of Analysis / Analytical Panel	- Cannabinoid potency by validated HPLC-UV (ICH Q2(R2)) - Residual solvents by headspace GC-FID/MS per USP <467> (process-specific: ethanol, hydrocarbon, or CO2 markers) - Terpene profiling by GC-FID / GC-MS - Heavy metals by ICP-MS (USP <233>) - Pesticide residues by LC-MS/MS and GC-MS/MS - Microbial limits per USP <61>/<62>; water activity where applicable - Full COA issued per batch/lot with traceability to source chemovar and extraction lot
Distribution & Chain of Custody	Shipped under DEA-registered controlled-substance chain of custody. Requires a completed Material Transfer/Supply Agreement, a DEA Form 222 or CSOS electronic order (recipient-initiated), and a signed research-use-only end-user certification. Full chain-of-custody documentation is maintained from GACP cultivation through GMP extraction, processing, and shipment.

OHB-EX-012 - Hot Ethanol Extract (Ingestion) - Standardized Research Grade



Classification & Botanical Source	Standardized Research Extract — Derived from OHANA GACP-cultivated Cannabis sativa L. plant material.
Cannabinoid Profile	Primary Cannabinoid: Δ9-THC or CBD, variable per protocol Potency: Variable, per specification (quantified via validated HPLC-UV, ICH Q2(R2))
Extraction & Form	Hot ethanol extraction Form: Oil
Regulatory Classification	DEA Schedule I Controlled Substance — Drug Code 7350 (Marijuana Extract, >0.3% Δ9-THC), 21 CFR Part 1301/1308. Recipient institution must hold an active DEA Schedule I researcher registration (or equivalent government authorization) and, for human-subjects' protocols, current IRB approval and an active FDA IND, consistent with NIDA Drug Supply Program request requirements.
Quality & Compliance Standards	Cultivated under Good Agricultural and Collection Practices (GACP) consistent with WHO guidelines on GACP for medicinal plants; extracted and processed under Good Manufacturing Practice (GMP) principles aligned with EU-GMP Annex 7 for herbal medicinal products and 21 CFR Parts 210/211, supporting Chemistry, Manufacturing & Controls (CMC) documentation per ICH Q7.
Research Applications	• Oral bioavailability and gastrointestinal absorption pharmacokinetic studies • Ingestion-route formulation research • Produced to support extraction-method diversity consistent with NIDA-identified research-material priorities
Certificate of Analysis / Analytical Panel	• Cannabinoid potency by validated HPLC-UV (ICH Q2(R2)) • Residual solvents by headspace GC-FID/MS per USP <467> (process-specific: ethanol, hydrocarbon, or CO2 markers) • Terpene profiling by GC-FID / GC-MS • Heavy metals by ICP-MS (USP <233>) • Pesticide residues by LC-MS/MS and GC-MS/MS • Microbial limits per USP <61>/<62>; water activity where applicable • Full COA issued per batch/lot with traceability to source chemovar and extraction lot
Distribution & Chain of Custody	Shipped under DEA-registered controlled-substance chain of custody. Requires a completed Material Transfer/Supply Agreement, a DEA Form 222 or CSOS electronic order (recipient-initiated), and a signed research-use-only end-user certification. Full chain-of-custody documentation is maintained from GACP cultivation through GMP extraction, processing, and shipment.



SECTION 4 — High-Purity Cannabinoid API Isolates

for Pharmaceutical CMC, IND-Enabling Development, and NIH/Academic Pharmacology Research

OHANA Bio Pharma manufactures a portfolio of ≥ 95 –99.5% pure, crystalline cannabinoid Active Pharmaceutical Ingredients (APIs) — CBD, Δ^9 -THC, CBG, CBN, THCV, CBC, CBDv, Δ^8 -THC, THCA, CBDA, CBGA, CBL, CBE, CBT, and CBND, in both acidic and neutral forms — produced under cGMP (21 CFR Part 211) and targeting EU-GMP Part II compliance. Each isolate carries defined specifications for identity (CAS number, molecular formula, and IUPAC nomenclature), related-substance limits, residual solvents per ICH Q3C, elemental impurities per ICH Q3D, and microbial limits per USP <61>/<62>, with acidic cannabinoids maintained under validated cold-chain conditions to preserve stability. Full CMC support packages — Certificate of Analysis, ICH Q1 stability data, and DMF/ASMF regulatory dossiers — are available to underpin IND submissions, 505(b)(2) programs, reference-standard development, and NIH- or academically funded pharmacology research. All isolates originate from GACP-sourced botanical material through a fully documented, batch-traceable process; OHANA manufactures no synthetic cannabinoids. Every isolate in this catalog — including cannabinoids commonly marketed elsewhere as non-scheduled hemp derivatives (CBD, CBG, CBDA, CBC, and CBDv) — is manufactured, scheduled, and shipped as a DEA Schedule I Controlled Substance under Drug Codes 7350/7360/7370, consistent with OHANA's marijuana-extract sourcing model and the amended federal hemp definition described in the notices section.



4.1 Neutral API Isolates

Decarboxylated, thermally stable primary cannabinoids — CBD, Δ^9 -THC, CBG, CBN, THCV, CBC, CBDv, and Δ^8 -THC — representing OHANA's principal-volume API portfolio. These isolates support the broadest range of oral, sublingual, transdermal, and investigational parenteral formulation programs and carry the deepest clinical and regulatory precedent (e.g., Epidiolex®, Marinol®, Syndros®, and Sativex® reference frameworks).

1. **OHB-API-001** — CBD Isolate (Phyto-CBD API) (Cannabidiol (CBD))
2. **OHB-API-002** — Δ^9 -THC Isolate (Phyto-THC API) (Δ^9 -Tetrahydrocannabinol (Δ^9 -THC))
3. **OHB-API-003** — CBG Isolate (Phyto-CBG API) (Cannabigerol (CBG))
4. **OHB-API-004** — CBN Isolate (Phyto-CBN API) (Cannabinol (CBN))
5. **OHB-API-005** — THCV Isolate (Phyto-THCV API) (Tetrahydrocannabivarin (THCV))
6. **OHB-API-006** — CBC Isolate (Phyto-CBC API) (Cannabichromene (CBC))
7. **OHB-API-007** — CBDv Isolate (Phyto-CBDv API) (Cannabidivarin (CBDv))
8. **OHB-API-008** — Δ^8 -THC Isolate (Δ^8 -Tetrahydrocannabinol (Δ^8 -THC))

4.2 Acidic API Isolates

Carboxylated, biosynthetically upstream cannabinoid acids — Tetrahydrocannabinolic Acid (THCA), Cannabidiolic Acid (CBDA), and Cannabigerolic Acid (CBGA). These isolates are thermally labile and decarboxylate to their neutral counterparts under heat, so all require validated cold-chain storage (-20°C to -80°C , N_2 atmosphere where noted) to preserve acid-form integrity. Supplied for cold-processed formulation development, non-heated delivery platforms, and acid-specific pharmacology research.

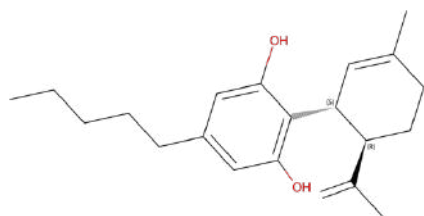
9. **OHB-API-009** — THCA Isolate (Tetrahydrocannabinolic Acid (THCA))
10. **OHB-API-010** — CBDA Isolate (Cannabidiolic Acid (CBDA))
11. **OHB-API-011** — CBGA Isolate (Cannabigerolic Acid (CBGA))

4.3 Rare Cannabinoid API Isolates

Low-abundance cannabinoids — Cannabicyclol (CBL), Cannabielsoin (CBE), Cannabitriol (CBT), and Cannabinodiol (CBND) — that arise naturally from CBC, CBD, and Δ -THC through light-, heat-, and air-mediated aging of the plant and cured biomass during growth, harvest, and post-harvest storage. OHANA isolates and purifies these naturally occurring trace constituents directly from GACP-cultivated Cannabis sativa L. plant material via chromatographic separation — it does not chemically synthesize, isomerize, or otherwise manufacture any cannabinoid ex-plant. Consistent with OHANA's 100% plant-derived, no-synthetic-cannabinoids policy, available only in milligram-to-gram, limited-yield quantities, these isolates are supplied primarily for reference-standard development, degradation-pathway characterization, and early-stage novel-pharmacology research.

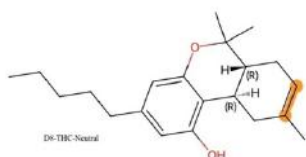
12. **OHB-API-012** — CBL Isolate (Cannabicyclol (CBL))
13. **OHB-API-013** — CBE Isolate (Cannabielsoin (CBE))
14. **OHB-API-014** — CBT Isolate (Cannabitriol (CBT))
15. **OHB-API-015** — CBND Isolate (Cannabinodiol (CBND))

4.1 Neutral API Isolates

OHB-API-001 – CBD - Phyto API Isolate

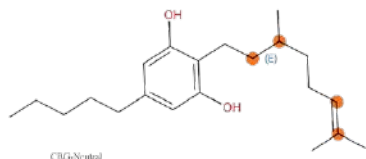
Cannabinoid & Purity	Cannabidiol (CBD) — Purity: ≥99.5% Pharmaceutical Grade ≥98.0% Research Grade (quantified via validated HPLC-UV, ICH Q2(R2))	
Chemical Class / Subclass	Phytocannabinoid, Cannabidiol-type. Bicyclic terpenophenolic — resorcinol (1,3-dihydroxybenzene) ring fused to a monoterpene cyclohexene ring bearing an isopropenyl substituent; trans-(1R,6R) stereocenters; n-pentyl side chain at C-5. No ring-locked THC conformation — negligible CB1/CB2 binding.	
Key Specifications	NMT 0.1% CBDv; NMT 0.1% THC; water content ≤0.5% (KF); residual solvents per ICH Q3C; heavy metals per ICH Q3D (≤10 ppm total); microbial limits per USP <61>/<62>.	
Physical Form	White to off-white crystalline powder; characteristic faint earthy odor.	
Pharmacopeial	USP / Ph. Eur.-ready Form: Crystalline powder	
Available Quantities	1 g 5 g 25 g 100 g 500 g 1 kg 5 kg Custom bulk (grams to multi-kilogram)	
Storage & Stability	Cool, dry, light-protected; 2–8°C recommended. Stability: 24 months sealed.	
Regulatory Classification	DEA Schedule I Controlled Substance — Drug Code 7350 (Marijuana Extract, >0.3% Δ9-THC), 21 CFR Part 1301/1308. Recipient institution must hold an active DEA Schedule I researcher/manufacturer registration and, for IND-enabling or clinical use, an active FDA IND. Not eligible for hemp-exempt status. [Ref. HEMP-2026: 7 U.S.C. §1639o, as amended by Pub. L. No. 119-37, §781, eff. 11/12/2026 — total-THC hemp standard]	
Quality & Compliance Standards	Sourced from GACP-cultivated Cannabis sativa L. plant material through a fully documented, batch-traceable process consistent with WHO guidelines on GACP for medicinal plants. Manufactured under cGMP (21 CFR Part 211) and targeting EU-GMP Part II compliance, supporting Chemistry, Manufacturing & Controls (CMC) documentation per ICH Q7 [Ref. 3]. OHANA manufactures no synthetic cannabinoids.	
R & D Applications	• 505(b)(2) drug development programs • IND submissions and clinical trial supply • Hospital compounding (503B) formulations • OTC monograph formulation development • Epilepsy research • (Dravet/Lennox-Gastaut syndromes)	• Anxiety/PTSD research • Pain & inflammation research • Chemotherapy-adjunct antiemetic research • Autism spectrum disorder (investigational) • Schizophrenia — CBD-augmentation trials
Formulation Targets	Oral solution (Epidiolex®-class); soft-gel capsules (MCT/olive oil base); sublingual tinctures; topical creams/transdermal patches; suppositories; investigational injectable (IP); intranasal spray.	
Regulatory & CMC Support	Certificate of Analysis; ICH Q1 stability data package; Drug Master File (Type II) or ASMF regulatory dossier support; full CMC package underpinning IND submissions, 505(b)(2) programs, reference-standard development, and NIH- or academically funded pharmacology research.	
Distribution & Chain of Custody	Shipped under DEA-registered controlled-substance chain of custody. Requires a completed Material Transfer/Supply Agreement, a DEA Form 222 or CSOS electronic order (recipient-initiated), and a signed research/CMC-use end-user certification. Full chain-of-custody documentation is maintained from GACP cultivation through GMP isolation, processing, and shipment.	

OHB-API-002 - Δ9-THC – Phyto API Isolate



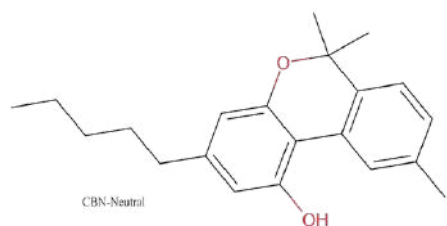
Cannabinoid & Purity	Δ9-Tetrahydrocannabinol (Δ9-THC) — Purity: ≥99.0% Pharmaceutical Grade ≥98.0% Research Grade (quantified via validated HPLC-UV, ICH Q2(R2))	
Chemical Class / Subclass	Phytocannabinoid, Tetrahydrocannabinol-type. Tricyclic terpenophenol (dibenzopyran numbering); benzopyran core with saturated cyclohexane ring, trans-fused at C-6a/C-10a; ring-locked conformation enables CB1 receptor binding and psychoactivity. Isomeric with CBD but structurally distinct via cyclization.	
Key Specifications	NMT 0.5% Δ8-THC; defined impurity profile per ICH Q3A/B; chiral purity confirmed; residual solvents per ICH Q3C [Ref. 9]; heavy metals ≤10 ppm.	
Physical Form & Appearance	Colorless to pale-yellow viscous oil (neat); white crystalline solid as tartrate/cyclodextrin complex.	
Pharmacopeial Grade	USP-grade target Form: Crystalline powder / neat oil	
Available Quantities	100 mg 500 mg 1 g 5 g 25 g 100 g (DEA Form 222 required)	
Storage & Stability	–20°C, inert atmosphere, amber vial, DEA Schedule I vault. Stability: 18 months.	
Regulatory Classification	DEA Schedule I Controlled Substance (bulk) / Schedule II (Rx) — Drug Code 7370 (Tetrahydrocannabinols), 21 CFR Part 1301/1308 . Recipient institution must hold an active DEA Schedule I researcher/manufacturer registration and, for IND-enabling or clinical use, an active FDA IND.	
Quality & Compliance Standards	Sourced from GACP-cultivated Cannabis sativa L. plant material through a fully documented, batch-traceable process consistent with WHO guidelines on GACP for medicinal plants. Manufactured under cGMP (21 CFR Part 211) and targeting EU-GMP Part II compliance, supporting Chemistry, Manufacturing & Controls (CMC) documentation per ICH Q7. OHANA manufactures no synthetic cannabinoids.	
R & D Applications	• Syndros®-type oral solution and soft-gel capsule development • 505(b)(2) programs • Spasticity treatment research (multiple sclerosis) • Oncology supportive-care research — antiemetic/appetite (CINV, AIDS wasting)	• Neuropathic pain research • Glaucoma research — IOP reduction (investigational) • PTSD nightmares (investigational) • Palliative care applications
Formulation Targets	Oral capsule (Marinol®-class sesame oil); oromucosal spray (Sativex®-class with CBD, 1:1 ratio); transdermal patch; suppository (polyethylene glycol base); investigational injectable (Cremophor/cyclodextrin).	
Regulatory & CMC Support	Certificate of Analysis; ICH Q1 stability data package ; Drug Master File (Type II) or ASMF regulatory dossier support; full CMC package underpinning IND submissions, 505(b)(2) programs, reference-standard development, and NIH- or academically funded pharmacology research.	
Distribution & Chain of Custody	Shipped under DEA-registered controlled-substance chain of custody. Requires a completed Material Transfer/Supply Agreement, a DEA Form 222 or CSOS electronic order (recipient-initiated), and a signed research/CMC-use end-user certification. Full chain-of-custody documentation is maintained from GACP cultivation through GMP isolation, processing, and shipment.	

OHB-API-003 — CBG – Phyto API Isolate



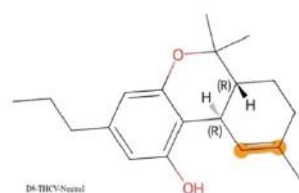
Cannabinoid & Purity	Cannabigerol (CBG) — Purity: ≥99.0% Pharmaceutical Grade ≥98.0% Research Grade (quantified via validated HPLC-UV, ICH Q2(R2))	
Chemical Class / Subclass	Phytocannabinoid, Cannabigerol-type (biosynthetic precursor). Non-cyclic terpenophenol — the biosynthetic parent of all phytocannabinoids; CBGA is the enzymatic precursor to THCA, CBDA, and CBCA. Open-chain geranyl resorcinol structure (no ring closure). CB1 partial agonist, CB2 agonist, α2-adrenergic agonist, TRPM8 antagonist.	
Key Specifications	NMT 0.3% related cannabinoids; residual solvents per ICH Q3C; heavy metals per ICH Q3D [Ref. 10].	
Physical Form	Colorless to pale-yellow oil or white waxy solid .	
Pharmacopeial	USP-grade target Form: Crystalline powder	
Available Quantities	1 g 5 g 25 g 100 g 500 g Custom (grams to multi-kilogram)	
Storage & Stability	2–8°C, N2 atmosphere, amber glass. Stability: 18 months.	
Regulatory Classification	DEA Schedule I Controlled Substance — Drug Code 7350 (Marijuana Extract, >0.3% Δ9-THC), 21 CFR Part 1301/1308 . Recipient institution must hold an active DEA Schedule I researcher/manufacturing registration and, for IND-enabling or clinical use, an active FDA IND. Not eligible for hemp-exempt status. [Ref. HEMP-2026: 7 U.S.C. §1639o, as amended by Pub. L. No. 119-37, §781, eff. 11/12/2026 — total-THC hemp standard]	
Quality & Compliance Standards	Sourced from GACP-cultivated Cannabis sativa L. plant material through a fully documented, batch-traceable process consistent with WHO guidelines on GACP for medicinal plants. Manufactured under cGMP (21 CFR Part 211) and targeting EU-GMP Part II compliance, supporting Chemistry, Manufacturing & Controls (CMC) documentation per ICH Q7. OHANA manufactures no synthetic cannabinoids.	
Research & Development Applications	• Anti-inflammatory and neuroprotection research • Glaucoma research — IOP reduction • IBD/IBS therapeutic development — Crohn's disease • Preclinical target-validation programs	• Bladder dysfunction research • Antibacterial research — MRSA-active • Huntington's disease neuroprotection (investigational) • Anti-proliferative oncology research (investigational)
Formulation Targets	Oral tincture; topical/transdermal (anti-inflammatory); ophthalmic drops (IOP, investigational); oral capsule; compounding base.	
Regulatory & CMC Support	Certificate of Analysis; ICH Q1 stability data package; Drug Master File (Type II) or ASMF regulatory dossier support; full CMC package underpinning IND submissions, 505(b)(2) programs, reference-standard development, and NIH- or academically funded pharmacology research.	
Distribution & Chain of Custody	Shipped under DEA-registered controlled-substance chain of custody. Requires a completed Material Transfer/Supply Agreement, a DEA Form 222 or CSOS electronic order (recipient-initiated), and a signed research/CMC-use end-user certification. Full chain-of-custody documentation is maintained from GACP cultivation through GMP isolation, processing, and shipment.	

OHB-API-004 - CBN – Phyto API Isolate



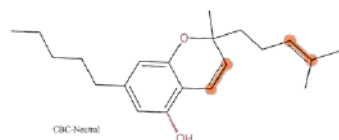
Cannabinoid & Purity	Cannabinol (CBN) — Purity: ≥99.0% Pharmaceutical Grade ≥98.0% Research Grade (quantified via validated HPLC-UV, ICH Q2(R2))	
Chemical Class / Subclass	CBN-type phytocannabinoid (dibenzopyran/benzo[c]chromene tricyclic core) — oxidative THC metabolite/degradant; fully aromatized THC derivative. Formed by oxidative degradation/dehydrogenation of Δ9-THC; achiral (no stereocenters, unlike Δ9-THC's two stereocenters); ~10x lower CB1 receptor affinity than THC; historically associated with sedative properties.	
Key Specifications	NMT 0.5% THC; characterized degradation profile; residual solvents per ICH Q3C.	
Physical Form	White to slightly yellow crystalline powder.	
Pharmacopeial	Ph. Eur.-ready Form: Crystalline powder	
Available Quantities	100 mg 500 mg 1 g 5 g 25 g (DEA Form 222 required)	
Storage & Stability	2–8°C, protected from light. Stability: 24 months.	
Regulatory Classification	DEA Schedule I Controlled Substance — Drug Code 7350 (Marihuana Extract, >0.3% Δ9-THC), 21 CFR Part 1301/1308. Recipient institution must hold an active DEA Schedule I researcher/manufacturer registration and, for IND-enabling or clinical use, an active FDA IND.	
Quality & Compliance Standards	Sourced from GACP-cultivated Cannabis sativa L. plant material through a fully documented, batch-traceable process consistent with WHO guidelines on GACP for medicinal plants . Manufactured under cGMP (21 CFR Part 211) and targeting EU-GMP Part II compliance, supporting Chemistry, Manufacturing & Controls (CMC) documentation per ICH Q7 OHANA manufactures no synthetic cannabinoids.	
R & D Applications	• Insomnia therapy research • Sedation research • Sleep-disorder clinical trials • Geriatric pharmacology applications	• Antibacterial research — MRSA-active • Appetite stimulation research • Anti-inflammatory research • ALS neuroprotection (investigational)
Formulation Targets	Oral soft-gel (sleep blend with CBD); sublingual tincture; topical anti-bacterial skin formulation; oromucosal spray.	
Regulatory & CMC Support	Certificate of Analysis; ICH Q1 stability data package; Drug Master File (Type II) or ASMF regulatory dossier support; full CMC package underpinning IND submissions, 505(b)(2) programs, reference-standard development, and NIH- or academically funded pharmacology research.	
Distribution & Chain of Custody	Shipped under DEA-registered controlled-substance chain of custody. Requires a completed Material Transfer/Supply Agreement, a DEA Form 222 or CSOS electronic order (recipient-initiated), and a signed research/CMC-use end-user certification. Full chain-of-custody documentation is maintained from GACP cultivation through GMP isolation, processing, and shipment.	

OHB-API-005 — THCV – Phyto API Isolate



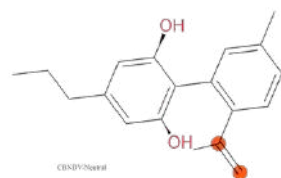
Cannabinoid & Purity	Tetrahydrocannabivarin (THCV) — Purity: ≥98.0% (quantified via validated HPLC-UV, ICH Q2(R2))
Chemical Class / Subclass	Propyl phytocannabinoid, Varinolic THC analog. Homolog of Δ ⁹ -THC with a propyl (C3) side chain at C-3 instead of pentyl (C5); same tricyclic dibenzopyran core and (6aR,10aR) stereocenters. Partial CB1 antagonist at low doses, CB1 agonist at high doses; also a CB2 agonist.
Key Specifications	NMT 0.5% related cannabinoids; total impurities ≤2.0%; residual solvents per ICH Q3C
Physical Form	Colorless oil or white crystalline solid .
Pharmacopeial	Research-grade Form: Crystalline powder
Available Quantities	100 mg 500 mg 1 g 5 g (grams to kilogram; DEA Form 222 required)
Storage & Stability	–20°C, inert atmosphere. Stability: 18 months.
Regulatory Classification	DEA Schedule I Controlled Substance — Drug Code 7350 / 7370 >0.3% Δ ⁹ -THC), 21 CFR Part 1301/1308 [Ref. 8]. Recipient institution must hold an active DEA Schedule I researcher/manufacturer registration and, for IND-enabling or clinical use, an active FDA IND.
Quality & Compliance Standards	Sourced from GACP-cultivated Cannabis sativa L. plant material through a fully documented, batch-traceable process consistent with WHO guidelines on GACP for medicinal plants. Manufactured under cGMP (21 CFR Part 211) and targeting EU-GMP Part II compliance, supporting Chemistry, Manufacturing & Controls (CMC) documentation per ICH Q7. OHANA manufactures no synthetic cannabinoids.
R & D Applications	• Metabolic modulator research (OHB-203 pipeline) • Appetite-suppression/anti-obesity research • Type 2 diabetes research — glycemic control • Epilepsy research • Bone density/osteoporosis research (investigational) • CB1 neutral-antagonism applications • CNS-targeted pharmacology programs
Formulation Targets	Oral capsule; sublingual spray; investigational injectable.
Regulatory & CMC Support	Certificate of Analysis; ICH Q1 stability data package; Drug Master File (Type II) or ASMF regulatory dossier support; full CMC package underpinning IND submissions, 505(b)(2) programs, reference-standard development, and NIH- or academically funded pharmacology research.
Distribution & Chain of Custody	Shipped under DEA-registered controlled-substance chain of custody. Requires a completed Material Transfer/Supply Agreement, a DEA Form 222 or CSOS electronic order (recipient-initiated), and a signed research/CMC-use end-user certification. Full chain-of-custody documentation is maintained from GACP cultivation through GMP isolation, processing, and shipment.

OHB-API-006 - CBC – Phyto API Isolate



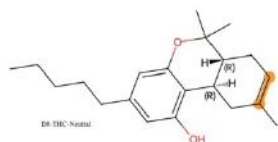
Cannabinoid & Purity	Cannabichromene (CBC) — Purity: ≥95.0% (quantified via validated HPLC-UV, ICH Q2(R2))
Chemical Class / Subclass	Phytocannabinoid, Chromene-type (non-psychoactive). Bicyclic chromene (benzopyran) lacking the additional cyclohexane ring present in THC or the cyclic closure of CBD; derived from CBCA by decarboxylation. Does not bind CB1 significantly; potent TRPA1/TRPV1 agonist and CB2 agonist.
Key Specifications	NMT 1.0% related cannabinoids; total impurities ≤3.0%; residual solvents per ICH Q3C.
Physical Form	Colorless to pale-yellow oil; non-crystallizing concentrate.
Pharmacopeial	Research-grade Form: Non-crystallizing concentrate / powder
Available Quantities	100 mg 500 mg 1 g 5 g (grams to kilogram)
Storage & Stability	–20°C, N2 atmosphere, amber glass. Stability: 18 months.
Regulatory Classification	DEA Schedule I Controlled Substance — Drug Code 7350/7370 >0.3% Δ9-THC), 21 CFR Part 1301/1308. Recipient institution must hold an active DEA Schedule I researcher/manufacturer registration and, for IND-enabling or clinical use, an active FDA IND. Not eligible for hemp-exempt status. [Ref. HEMP-2026: 7 U.S.C. §1639o, as amended by Pub. L. No. 119-37, §781, eff. 11/12/2026 — total-THC hemp standard]
Quality & Compliance Standards	Sourced from GACP-cultivated Cannabis sativa L. plant material through a fully documented, batch-traceable process consistent with WHO guidelines on GACP for medicinal plants [Ref. 2]. Manufactured under cGMP (21 CFR Part 211) and targeting EU-GMP Part II compliance, supporting Chemistry, Manufacturing & Controls (CMC) documentation per ICH Q7. OHANA manufactures no synthetic cannabinoids.
R & D Applications	• Anti-inflammatory and analgesic research • Depression research — TRPA1/TRPV1-mediated antidepressant activity • Neurogenesis studies — adult neuroprogenitor stimulation • Acne treatment research • Pain research — TRP channel modulation • Entourage-effect blends with CBD/THC
Formulation Targets	Oral capsule (MCT base); topical formulation; entourage-effect blend with CBD/THC.
Regulatory & CMC Support	Certificate of Analysis; ICH Q1 stability data package; Drug Master File (Type II) or ASMF regulatory dossier support; full CMC package underpinning IND submissions, 505(b)(2) programs, reference-standard development, and NIH- or academically funded pharmacology research.
Distribution & Chain of Custody	Shipped under DEA-registered controlled-substance chain of custody. Requires a completed Material Transfer/Supply Agreement, a DEA Form 222 or CSOS electronic order (recipient-initiated), and a signed research/CMC-use end-user certification. Full chain-of-custody documentation is maintained from GACP cultivation through GMP isolation, processing, and shipment.

OHB-API-007 - CBDv - Phyto API Isolate



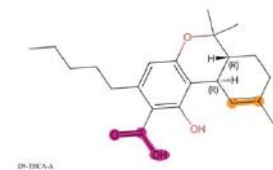
Cannabinoid & Purity	Cannabidivarin (CBDv) — Purity: ≥98.0% (quantified via validated HPLC-UV, ICH Q2(R2))
Chemical Class / Subclass	Propyl phytocannabinoid, Varinolic CBD analog. Structural homolog of CBD with a propyl (C3) side chain instead of pentyl (C5); retains the bicyclic terpenophenol scaffold and (1R,6R) stereocenters of CBD. Shorter chain reduces lipophilicity (logP ~5.0 vs ~6.5 for CBD); TRPV1/TRPV2 agonism, TRPA1 antagonism, reduced CB1 affinity.
Key Specifications	NMT 0.5% related cannabinoids; residual solvents per ICH Q3C [Ref. 9]; heavy metals per ICH Q3D [Ref. 10].
Physical Form	White to off-white crystalline powder.
Pharmacopeial	Research-grade Form: Crystalline powder
Available Quantities	100 mg 500 mg 1 g 5 g 25 g Custom (grams to kilogram)
Storage & Stability	2–8°C, protected from light. Stability: 24 months.
Regulatory Classification	DEA Schedule I Controlled Substance — Drug Code 7350 (Marijuana Extract, >0.3% Δ9-THC), 21 CFR Part 1301/1308 [Ref. 8]. Recipient institution must hold an active DEA Schedule I researcher/manufacturer registration and, for IND-enabling or clinical use, an active FDA IND. Not eligible for hemp-exempt status. [Ref. HEMP-2026: 7 U.S.C. §1639o, as amended by Pub. L. No. 119-37, §781, eff. 11/12/2026 — total-THC hemp standard]
Quality & Compliance Standards	Sourced from GACP-cultivated Cannabis sativa L. plant material through a fully documented, batch-traceable process consistent with WHO guidelines on GACP for medicinal plants. Manufactured under cGMP (21 CFR Part 211) and targeting EU-GMP Part II compliance, supporting Chemistry, Manufacturing & Controls (CMC) documentation per ICH Q7. OHANA manufactures no synthetic cannabinoids.
R & D Applications	- Epilepsy research — Rett syndrome, autism-associated epilepsy (GW Pharmaceuticals Phase II precedent) - Autism spectrum disorder research — social communication (investigational) - Nausea research — TRPV1-mediated - Duchenne muscular dystrophy research (investigational) - Combination phytopharmaceutical programs
Formulation Targets	Oral solution; oral capsule; clinical trial supply (pediatric epilepsy); sublingual tincture.
Regulatory & CMC Support	Certificate of Analysis; ICH Q1 stability data package; Drug Master File (Type II) or ASMF regulatory dossier support; full CMC package underpinning IND submissions, 505(b)(2) programs, reference-standard development, and NIH- or academically funded pharmacology research.
Distribution & Chain of Custody	Shipped under DEA-registered controlled-substance chain of custody. Requires a completed Material Transfer/Supply Agreement, a DEA Form 222 or CSOS electronic order (recipient-initiated), and a signed research/CMC-use end-user certification. Full chain-of-custody documentation is maintained from GACP cultivation through GMP isolation, processing, and shipment.

OHB-API-008 - Δ8-THC - Phyto API Isolate



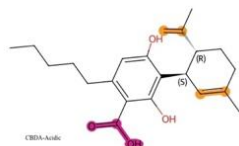
Cannabinoid & Purity	Δ8-Tetrahydrocannabinol (Δ8-THC) — Purity: ≥98.0% (quantified via validated HPLC-UV, ICH Q2(R2))
Chemical Class / Subclass	Phytocannabinoid, Tetrahydrocannabinol-type (Δ8 positional isomer). Shares Δ9-THC's molecular formula and tricyclic dibenzopyran core but with the ring double bond shifted from C9–C10 to C8–C9, giving improved oxidative/shelf stability and comparatively lower CB1 potency than Δ9-THC.
Key Specifications	NMT 0.5% Δ9-THC; characterized isomer profile; residual solvents per ICH Q3C .
Physical Form	Colorless oil or crystalline solid; isomer profile confirmed by CoA.
Pharmacoepial Grade	Research-grade Form: Crystalline powder
Available Quantities	100 mg 500 mg 1 g 5 g (grams to kilogram; DEA Form 222 required)
Storage & Stability	–20°C, inert atmosphere. Stability: 18 months.
Regulatory Classification	DEA Schedule I Controlled Substance — Drug Code 7370 (Tetrahydrocannabinols), 21 CFR Part 1301/1308. Recipient institution must hold an active DEA Schedule I researcher/manufacturer registration and, for IND-enabling or clinical use, an active FDA IND.
Quality & Compliance Standards	Sourced from GACP-cultivated Cannabis sativa L. plant material through a fully documented, batch-traceable process consistent with WHO guidelines on GACP for medicinal plants. Manufactured under cGMP (21 CFR Part 211) and targeting EU-GMP Part II compliance, supporting Chemistry, Manufacturing & Controls (CMC) documentation per ICH Q7. OHANA manufactures no synthetic cannabinoids.
R & D Applications	• Preclinical research • Comparative pharmacology studies vs. Δ9-THC • Antiemetic research
Formulation Targets	Formulation-development data available on request; no standardized OHANA delivery-platform mapping published in the current dossier.
Regulatory & CMC Support	Certificate of Analysis; ICH Q1 stability data package [Ref. 11]; Drug Master File (Type II) or ASMF regulatory dossier support; full CMC package underpinning IND submissions, 505(b)(2) programs, reference-standard development, and NIH- or academically funded pharmacology research.
Distribution & Chain of Custody	Shipped under DEA-registered controlled-substance chain of custody. Requires a completed Material Transfer/Supply Agreement, a DEA Form 222 or CSOS electronic order (recipient-initiated), and a signed research/CMC-use end-user certification. Full chain-of-custody documentation is maintained from GACP cultivation through GMP isolation, processing, and shipment.

4.2 Acidic API Isolates

OHB-API-009 - THCA – Phyto API Isolate

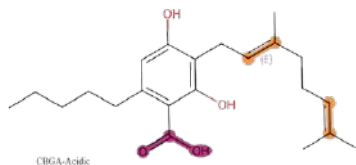
Cannabinoid & Purity	Tetrahydrocannabinolic Acid (THCA) — Purity: ≥98.0% (quantified via validated HPLC-UV, ICH Q2(R2))
Chemical Class / Subclass	Phytocannabinoid acid, Carboxylated THC precursor. Tricyclic terpenophenol bearing an ortho-carboxylate at C-2 relative to the phenolic OH; thermally labile — decarboxylates to Δ ⁹ -THC above ~120°C. Non-psychoactive in acid form; cold-chain mandatory for preservation.
Key Specifications	NMT 0.5% decarboxylated THC; cold-chain storage required; residual solvents per ICH Q3C.
Physical Form	White crystalline solid (cold-chain maintained).
Pharmacopeial	Research-grade Form: Crystalline powder
Available Quantities	Grams to Kilograms (DEA Form 222 required)
Storage & Stability	–80°C, N ₂ atmosphere. Stability: 12 months frozen.
Regulatory Classification	DEA Schedule I Controlled Substance (precursor/analog) — Drug Code 7350 (converted form), 21 CFR Part 1301/1308. Recipient institution must hold an active DEA Schedule I researcher/manufacturer registration and, for IND-enabling or clinical use, an active FDA IND.
Quality & Compliance Standards	Sourced from GACP-cultivated Cannabis sativa L. plant material through a fully documented, batch-traceable process consistent with WHO guidelines on GACP for medicinal plants. Manufactured under cGMP (21 CFR Part 211) and targeting EU-GMP Part II compliance, supporting Chemistry, Manufacturing & Controls (CMC) documentation per ICH Q7 [Ref. 3]. OHANA manufactures no synthetic cannabinoids.
R & D Applications	• Anti-inflammatory and neuroprotection research — COX-1/COX-2 inhibition • Non-psychoactive cannabinoid research • Preclinical oncology research — anti-proliferative (investigational) • Antiemetic research
Formulation Targets	Oral solution (cold-processed); suppository; sublingual (non-heated); clinical trial API (investigational anti-inflammatory).
Regulatory & CMC Support	Certificate of Analysis; ICH Q1 stability data package; Drug Master File (Type II) or ASMF regulatory dossier support; full CMC package underpinning IND submissions, 505(b)(2) programs, reference-standard development, and NIH- or academically funded pharmacology research.
Distribution & Chain of Custody	Shipped under DEA-registered controlled-substance chain of custody. Requires a completed Material Transfer/Supply Agreement, a DEA Form 222 or CSOS electronic order (recipient-initiated), and a signed research/CMC-use end-user certification. Full chain-of-custody documentation is maintained from GACP cultivation through GMP isolation, processing, and shipment.

OHBA-API-010 - CBDA – Phyto API Isolate



Cannabinoid & Purity	Cannabidiolic Acid (CBDA) — Purity: ≥98.0% (quantified via validated HPLC-UV, ICH Q2(R2))
Chemical Class / Subclass	Phytocannabinoid acid, Carboxylated CBD precursor. Bicyclic terpenophenol with a C-2 carboxylic acid on the resorcinol ring; the biosynthetic precursor to CBD via CBDA synthase. More polar and less bioavailable than CBD; thermally labile (decarboxylates ~100–120°C); retains (1R,6R) stereocenters. Cold-chain required.
Key Specifications	NMT 0.5% decarboxylated CBD; cold-chain storage required; residual solvents per ICH Q3C.
Physical Form	White crystalline solid.
Pharmacoceial	Research-grade Form: Crystalline powder
Available Quantities	100 mg 500 mg 1 g 5 g (grams to kilogram)
Storage & Stability	–20°C. Stability: 12 months frozen.
Regulatory Classification	DEA Schedule I Controlled Substance — Drug Code 7370 >0.3% Δ9-THC), 21 CFR Part 1301/1308. Recipient institution must hold an active DEA Schedule I researcher/manufacturer registration and, for IND-enabling or clinical use, an active FDA IND. Not eligible for hemp-exempt status. [Ref. HEMP-2026: 7 U.S.C. §1639o, as amended by Pub. L. No. 119-37, §781, eff. 11/12/2026 — total-THC hemp standard]
Quality & Compliance Standards	Sourced from GACP-cultivated Cannabis sativa L. plant material through a fully documented, batch-traceable process consistent with WHO guidelines on GACP for medicinal plants. Manufactured under cGMP (21 CFR Part 211) and targeting EU-GMP Part II compliance, supporting Chemistry, Manufacturing & Controls (CMC) documentation per ICH Q7. OHANA manufactures no synthetic cannabinoids.
Recommended Research & Development Applications	• Nausea/emesis research — motion sickness, chemotherapy-adjunct • Anti-anxiety studies • Novel cannabinoid-acid pharmacology • Anti-metastatic research — breast cancer (investigational, TRPV1 modulation)
Formulation Targets	Cold-processed oral solution; suppository; sublingual (acid form); clinical trial supply.
Regulatory & CMC Support	Certificate of Analysis; ICH Q1 stability data package; Drug Master File (Type II) or ASMF regulatory dossier support; full CMC package underpinning IND submissions, 505(b)(2) programs, reference-standard development, and NIH- or academically funded pharmacology research.
Distribution & Chain of Custody	Shipped under DEA-registered controlled-substance chain of custody. Requires a completed Material Transfer/Supply Agreement, a DEA Form 222 or CSOS electronic order (recipient-initiated), and a signed research/CMC-use end-user certification. Full chain-of-custody documentation is maintained from GACP cultivation through GMP isolation, processing, and shipment.

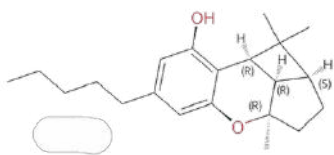
OHB-API-011 - CBGA – Phyto API Isolate



Cannabinoid & Purity	Cannabigerolic Acid (CBGA) — Purity: ≥95.0% (quantified via validated HPLC-UV, ICH Q2(R2))
Chemical Class / Subclass	Phytocannabinoid acid — “mother cannabinoid.” Non-cyclic terpenophenolic carboxylic acid; the universal biosynthetic precursor to THCA, CBDA, and CBCA via dedicated synthase enzymes. Decarboxylates to CBG above ~70°C.
Key Specifications	Decarboxylation <2%; store <25°C (decarboxylates >70°C); residual solvents per ICH Q3C.
Physical Form	Crystalline powder.
Pharmacopeial	Research-grade Form: Crystalline powder
Available Quantities	Grams to kilogram
Storage & Stability	<25°C, protected from heat and light; cold-chain recommended for extended storage.
Regulatory Classification	DEA Schedule I Controlled Substance — Drug Code 7370 >0.3% Δ9-THC), 21 CFR Part 1301/1308. Recipient institution must hold an active DEA Schedule I researcher/manufacturer registration and, for IND-enabling or clinical use, an active FDA IND.
Quality & Compliance Standards	Sourced from GACP-cultivated Cannabis sativa L. plant material through a fully documented, batch-traceable process consistent with WHO guidelines on GACP for medicinal plant. Manufactured under cGMP (21 CFR Part 211) and targeting EU-GMP Part II compliance, supporting Chemistry, Manufacturing & Controls (CMC) documentation per ICH Q7. OHANA manufactures no synthetic cannabinoids.
Recommended Research & Development Applications	• Cannabinoid biosynthesis research — precursor to THCA/CBDA/CBCA • Antiproliferative studies • Antimicrobial pharmacology
Formulation Targets	Reference-standard and biosynthetic-pathway research use; not currently mapped to a finished dosage form.
Regulatory & CMC Support	Certificate of Analysis; ICH Q1 stability data package; Drug Master File (Type II) or ASMF regulatory dossier support; full CMC package underpinning IND submissions, 505(b)(2) programs, reference-standard development, and NIH- or academically funded pharmacology research.
Distribution & Chain of Custody	Shipped under DEA-registered controlled-substance chain of custody. Requires a completed Material Transfer/Supply Agreement, a DEA Form 222 or CSOS electronic order (recipient-initiated), and a signed research/CMC-use end-user certification. Full chain-of-custody documentation is maintained from GACP cultivation through GMP isolation, processing, and shipment.

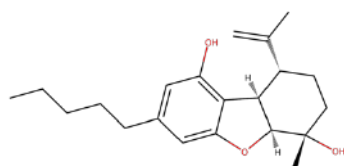
4.3 Rare Cannabinoid API Isolates

OHB-API-012 - CBL Phyto API Isolate



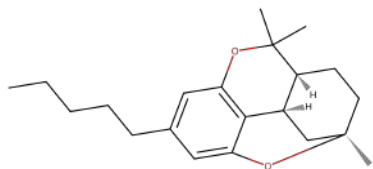
Cannabinoid & Purity	Cannabicyclol (CBL) — Purity: $\geq 95.0\%$ (quantified via validated HPLC-UV, ICH Q2(R2))
Chemical Class / Subclass	Non-psychoactive, naturally occurring photodegradation product of CBC. Distinctive cage-like, cyclobutane-fused ring system formed in planta and in cured biomass via natural UV-induced photocyclization of CBC; not present in fresh plant material in appreciable quantity, but accumulates naturally with light exposure and aging. Isolated directly from plant material — not chemically synthesized.
Key Specifications	NMT 2.0% residual CBC; formed via UV-induced photocyclization of CBC; light-protected packaging required; residual solvents per ICH Q3C.
Physical Form	Crystalline powder (limited-yield rare cannabinoid).
Pharmacopeial	Research-grade Form: Crystalline powder
Available Quantities	Milligrams to grams (limited-yield rare cannabinoid)
Storage & Stability	Light-protected, cool/dry storage recommended.
Regulatory Classification	DEA Schedule I Controlled Substance — Drug Code 7350 (Marijuana Extract, $>0.3\%$ Δ^9 -THC), 21 CFR Part 1301/1308. Recipient institution must hold an active DEA Schedule I researcher/manufacturer registration and, for IND-enabling or clinical use, an active FDA IND.
Quality & Compliance Standards	Sourced from GACP-cultivated Cannabis sativa L. plant material through a fully documented, batch-traceable process consistent with WHO guidelines on GACP for medicinal plants. Manufactured under cGMP (21 CFR Part 211) and targeting EU-GMP Part II compliance, supporting Chemistry, Manufacturing & Controls (CMC) documentation per ICH Q7. OHANA manufactures no synthetic cannabinoids.
R & D Applications	• Cannabinoid photodegradation pathway research • Anti-inflammatory studies • Novel non-psychoactive cannabinoid pharmacology
Formulation Targets	Reference-standard and analytical use; not currently formulated for direct dosage forms.
Regulatory & CMC Support	Certificate of Analysis; ICH Q1 stability data package; Drug Master File (Type II) or ASMF regulatory dossier support; full CMC package underpinning IND submissions, 505(b)(2) programs, reference-standard development, and NIH- or academically funded pharmacology research.
Distribution & Chain of Custody	Shipped under DEA-registered controlled-substance chain of custody. Requires a completed Material Transfer/Supply Agreement, a DEA Form 222 or CSOS electronic order (recipient-initiated), and a signed research/CMC-use end-user certification. Full chain-of-custody documentation is maintained from GACP cultivation through GMP isolation, processing, and shipment.

OHB-API-013 - CBE Phyto API Isolate



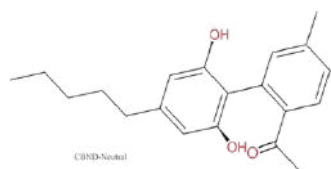
Cannabinoid & Purity	Cannabielsoin (CBE) — Purity: ≥95.0% (quantified via validated HPLC-UV, ICH Q2(R2))
Chemical Class / Subclass	Non-psychoactive, naturally occurring oxidative metabolite of CBD. The cyclohexene (B) ring of CBD is replaced by a five-membered furan ring, distinguishing CBE's dibenzofuran-diol scaffold from CBD's terpenophenol structure. Forms naturally in planta and during post-harvest storage; isolated directly from plant material — not chemically synthesized.
Key Specifications	NMT 2.0% residual CBD; formed via oxidative degradation of CBD; store -20°C, protect from light and moisture; residual solvents per ICH Q3C.
Physical Form & Appearance	Crystalline solid (limited-yield rare cannabinoid).
Pharmacopeial Grade & Form	Research-grade Form: Crystalline solid
Available Quantities	Milligrams to grams (limited-yield rare cannabinoid)
Storage & Stability	-20°C, protected from light and moisture.
Regulatory Classification	DEA Schedule I Controlled Substance — Drug Code 7350 (Marijuana Extract, >0.3% Δ9-THC), 21 CFR Part 1301/1308. Recipient institution must hold an active DEA Schedule I researcher/manufacturer registration and, for IND-enabling or clinical use, an active FDA IND.
Quality & Compliance Standards	Sourced from GACP-cultivated Cannabis sativa L. plant material through a fully documented, batch-traceable process consistent with WHO guidelines on GACP for medicinal plants. Manufactured under cGMP (21 CFR Part 211) and targeting EU-GMP Part II compliance, supporting Chemistry, Manufacturing & Controls (CMC) documentation per ICH Q7. OHANA manufactures no synthetic cannabinoids.
Recommended Research & Development Applications	• CBD oxidative-metabolite research • Analgesic and neuroprotective studies • Novel cannabinoid pharmacology
Formulation Targets	Reference-standard and analytical use; not currently formulated for direct dosage forms.
Regulatory & CMC Support	Certificate of Analysis; ICH Q1 stability data package; Drug Master File (Type II) or ASMF regulatory dossier support; full CMC package underpinning IND submissions, 505(b)(2) programs, reference-standard development, and NIH- or academically funded pharmacology research.
Distribution & Chain of Custody	Shipped under DEA-registered controlled-substance chain of custody. Requires a completed Material Transfer/Supply Agreement, a DEA Form 222 or CSOS electronic order (recipient-initiated), and a signed research/CMC-use end-user certification. Full chain-of-custody documentation is maintained from GACP cultivation through GMP isolation, processing, and shipment.

OHB-API-014 – CBT Phyto-API Isolate



Cannabinoid & Purity	Cannabitrinol (CBT) — Purity: ≥95.0% (quantified via validated HPLC-UV, ICH Q2(R2))
Chemical Class / Subclass	Naturally occurring oxidative metabolite of Δ9-THC. Trihydroxylated dibenzopyran core (an additional two hydroxyls relative to THC); trans/cis stereochemistry confirmed by CoA. Forms naturally during plant curing and storage; isolated directly from plant material — not chemically synthesized.
Key Specifications	Isomer/stereochemistry (trans/cis) confirmed by CoA; formed via oxidative degradation of THC; store –20°C, protect from light; residual solvents per ICH Q3C.
Physical Form & Appearance	Crystalline solid (limited-yield rare cannabinoid).
Pharmacopeial Grade	Research-grade Form: Crystalline solid
Available Quantities	Milligrams to grams (limited-yield rare cannabinoid)
Storage & Stability	–20°C, protected from light.
Regulatory Classification	DEA Schedule I Controlled Substance — Drug Code 7350 (Marijuana Extract, >0.3% Δ9-THC), 21 CFR Part 1301/1308. Recipient institution must hold an active DEA Schedule I researcher/manufacturer registration and, for IND-enabling or clinical use, an active FDA IND.
Quality & Compliance Standards	Sourced from GACP-cultivated Cannabis sativa L. plant material through a fully documented, batch-traceable process consistent with WHO guidelines on GACP for medicinal plants. Manufactured under cGMP (21 CFR Part 211) and targeting EU-GMP Part II compliance, supporting Chemistry, Manufacturing & Controls (CMC) documentation per ICH Q7. OHANA manufactures no synthetic cannabinoids.
R & D Applications	• Aromatase-inhibition studies • Antiestrogen pharmacology research • THC oxidative-metabolite pathway research
Formulation Targets	Reference-standard and analytical use; not currently formulated for direct dosage forms.
Regulatory & CMC Support	Certificate of Analysis; ICH Q1 stability data package; Drug Master File (Type II) or ASMF regulatory dossier support; full CMC package underpinning IND submissions, 505(b)(2) programs, reference-standard development, and NIH- or academically funded pharmacology research.
Distribution & Chain of Custody	Shipped under DEA-registered controlled-substance chain of custody. Requires a completed Material Transfer/Supply Agreement, a DEA Form 222 or CSOS electronic order (recipient-initiated), and a signed research/CMC-use end-user certification. Full chain-of-custody documentation is maintained from GACP cultivation through GMP isolation, processing, and shipment.

OHB-API-015 – CBND Phyto-API Isolate



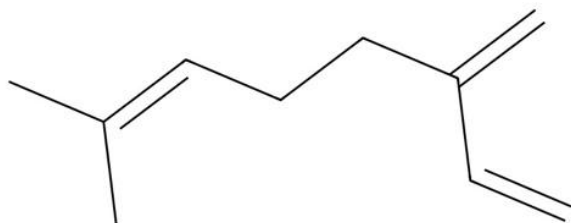
Cannabinoid & Purity	Cannabinodiol (CBND) — Purity: ≥95.0% (quantified via validated HPLC-UV, ICH Q2(R2))
Chemical Class / Subclass	Naturally occurring oxidative aromatization product of CBD. Ring-opened biphenyl structure (lacks the pyran oxygen bridge found in CBN); formed in planta and during cured-biomass storage via further natural oxidation of CBD past the CBN stage. Isolated directly from plant material — not chemically synthesized.
Key Specifications	NMT 2.0% residual CBD/CBN; formed via oxidative aromatization of CBD; store -20°C , protect from light and air; residual solvents per ICH Q3C [Ref. 9].
Physical Form	Crystalline solid (limited-yield rare cannabinoid).
Pharmacopeial Grade	Research-grade Form: Crystalline solid
Available Quantities	Milligrams to grams (limited-yield rare cannabinoid)
Storage & Stability	-20°C , protected from light and air.
Regulatory Classification	DEA Schedule I Controlled Substance — Drug Code 7350 (Marijuana Extract, $>0.3\%$ Δ^9 -THC), 21 CFR Part 1301/1308. Recipient institution must hold an active DEA Schedule I researcher/manufacturer registration and, for IND-enabling or clinical use, an active FDA IND.
Quality & Compliance Standards	Sourced from GACP-cultivated Cannabis sativa L. plant material through a fully documented, batch-traceable process consistent with WHO guidelines on GACP for medicinal plants. Manufactured under cGMP (21 CFR Part 211) and targeting EU-GMP Part II compliance, supporting Chemistry, Manufacturing & Controls (CMC) documentation per ICH Q7. OHANA manufactures no synthetic cannabinoids.
R & D Applications	• CBD oxidative degradation pathway research • Cannabinoid aromatization chemistry studies • CBN-precursor pharmacology research
Formulation Targets	Reference-standard and analytical use; not currently formulated for direct dosage forms.
Regulatory & CMC Support	Certificate of Analysis; ICH Q1 stability data package; Drug Master File (Type II) or ASMF regulatory dossier support; full CMC package underpinning IND submissions, 505(b)(2) programs, reference-standard development, and NIH- or academically funded pharmacology research.
Distribution & Chain of Custody	Shipped under DEA-registered controlled-substance chain of custody. Requires a completed Material Transfer/Supply Agreement, a DEA Form 222 or CSOS electronic order (recipient-initiated), and a signed research/CMC-use end-user certification. Full chain-of-custody documentation is maintained from GACP cultivation through GMP isolation, processing, and shipment.



SECTION 5 — Purified Terpenes & Flavonoids: Non-Scheduled Botanical Isolates for Entourage-Effect and Combination-Product Research

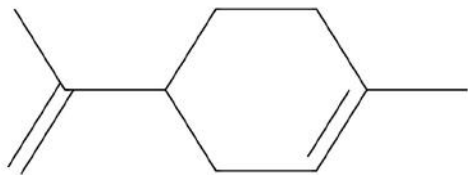
OHANA Bio Pharma completes its phytochemical portfolio with a line of $\geq 95\%$ pure, individually isolated cannabis terpenes — monoterpenes (myrcene, limonene, α -pinene, linalool, terpinolene) and sesquiterpenes (β -caryophyllene, humulene, α -bisabolol, nerolidol) — alongside a standardized, strain-specific multi-terpene blend and a research-grade cannflavin A/B/C flavonoid extracts, the prenylated flavones unique to Cannabis sativa reported to inhibit inflammatory prostaglandin release at potencies lower than aspirin in preclinical assays. Supplied as liquid, powder, or oil and manufactured under the same GACP-sourced, batch-traceable framework that underpins OHANA's cannabinoid API and extract lines, each isolate carries a Certificate of Analysis defining identity, purity, and residual-solvent limits. Because terpenes and flavonoids fall outside DEA scheduling, they offer a logistically flexible platform for reconstituting strain-specific chemovar profiles, probing cannabinoid-terpene-flavonoid “entourage effect” synergy — including CB2-mediated and receptor-independent mechanisms — and supporting combination-product formulation research across neurological, inflammatory, and dermatological indications.

OHB-TP-001 - Myrcene (Purified)



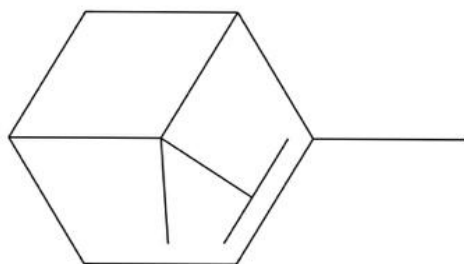
Compound Class & Purity	Monoterpene Purity/Content: $\geq 95\%$ (quantified via validated GC-MS or HPLC)
Source & Form	Cannabis-derived (Cannabis sativa L.) Form: Liquid – Bulk - Dropper
Key Research Interest	Sedation; analgesic synergy; THC potentiation
Regulatory Classification	Non-scheduled botanical isolate — terpenes and flavonoids fall outside DEA scheduling under the Controlled Substances Act, as they are not listed cannabinoids. Manufactured under cGMP (21 CFR Part 211) and targeting EU-GMP Part II compliance.
Quality & Compliance Standards	Sourced under the same GACP-cultivated, batch-traceable framework that underpins OHANA's cannabinoid API and extract lines. Each isolate carries a Certificate of Analysis defining identity, purity, and residual-solvent limits.
Recommended Research Applications	• Entourage-effect studies • Terpene-cannabinoid interaction research
Distribution	Not DEA-scheduled — ships via standard commercial logistics with full Certificate of Analysis documentation; no DEA Form 222/CSOS order or Schedule I registration required for this compound class.

OHB-TP-002 - Limonene (Purified)



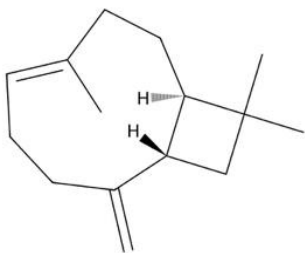
Compound Class & Purity	Monoterpene Purity/Content: ≥95% (quantified via validated GC-MS or HPLC)
Source & Form	Cannabis-derived (Cannabis sativa L.) Form: Liquid – Bulk - Dropper
Key Research Interest	Anti-anxiety; mood elevation; anti-fungal
Regulatory Classification	Non-scheduled botanical isolate — terpenes and flavonoids fall outside DEA scheduling under the Controlled Substances Act, as they are not listed cannabinoids. Manufactured under cGMP (21 CFR Part 211) and targeting EU-GMP Part II compliance.
Quality & Compliance Standards	Sourced under the same GACP-cultivated, batch-traceable framework that underpins OHANA's cannabinoid API and extract lines. Each isolate carries a Certificate of Analysis defining identity, purity, and residual-solvent limits.
Research Applications	• Mood-disorder research • Anxiolytic combination studies
Distribution	Not DEA-scheduled — ships via standard commercial logistics with full Certificate of Analysis documentation; no DEA Form 222/CSOS order or Schedule I registration required for this compound class.

OHB-TP-003 - α -Pinene (Purified)



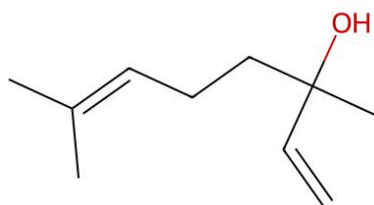
Compound Class & Purity	Monoterpene Purity/Content: ≥95% (quantified via validated GC-MS or HPLC)
Source & Form	Cannabis-derived (Cannabis sativa L.) Form: Liquid
Key Research Interest	Memory retention; anti-inflammatory; bronchodilator
Regulatory Classification	Non-scheduled botanical isolate — terpenes and flavonoids fall outside DEA scheduling under the Controlled Substances Act, as they are not listed cannabinoids. Manufactured under cGMP (21 CFR Part 211) and targeting EU-GMP Part II compliance.
Quality & Compliance Standards	Sourced under the same GACP-cultivated, batch-traceable framework that underpins OHANA's cannabinoid API and extract lines. Each isolate carries a Certificate of Analysis defining identity, purity, and residual-solvent limits.
Research Applications	• Cognitive studies • Respiratory research
Distribution	Not DEA-scheduled — ships via standard commercial logistics with full Certificate of Analysis documentation; no DEA Form 222/CSOS order or Schedule I registration required for this compound class.

OHB-TP-004 - β -Caryophyllene (Purified)



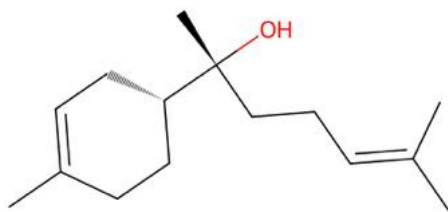
Compound Class & Purity	Sesquiterpene Purity/Content: $\geq 95\%$ (quantified via validated GC-MS or HPLC)
Source & Form	Cannabis-derived (<i>Cannabis sativa</i> L.) Form: Liquid – Bulk - Dropper
Key Research Interest	CB2 agonist; anti-inflammatory; gastroprotective
Regulatory Classification	Non-scheduled botanical isolate — terpenes and flavonoids fall outside DEA scheduling under the Controlled Substances Act, as they are not listed cannabinoids. Manufactured under cGMP (21 CFR Part 211) and targeting EU-GMP Part II compliance.
Quality & Compliance Standards	Sourced under the same GACP-cultivated, batch-traceable framework that underpins OHANA's cannabinoid API and extract lines. Each isolate carries a Certificate of Analysis defining identity, purity, and residual-solvent limits.
Research Applications	- Inflammatory-disease research - CB2 receptor pharmacology
Distribution	Not DEA-scheduled — ships via standard commercial logistics with full Certificate of Analysis documentation; no DEA Form 222/CSOS order or Schedule I registration required for this compound class.

OHB-TP-005 - Linalool (Purified)



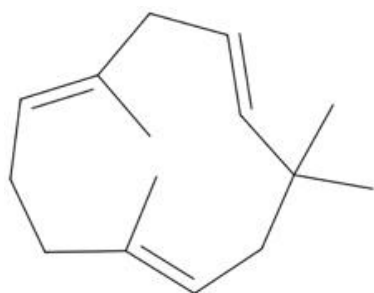
Compound Class & Purity	Monoterpene Purity/Content: $\geq 95\%$ (quantified via validated GC-MS or HPLC)
Source & Form	Cannabis-derived (<i>Cannabis sativa</i> L.) Form: Liquid – Bulk - Dropper
Key Research Interest	Anxiolytic; anticonvulsant; sedative
Regulatory Classification	Non-scheduled botanical isolate — terpenes and flavonoids fall outside DEA scheduling under the Controlled Substances Act, as they are not listed cannabinoids. Manufactured under cGMP (21 CFR Part 211) and targeting EU-GMP Part II compliance.
Quality & Compliance Standards	Sourced under the same GACP-cultivated, batch-traceable framework that underpins OHANA's cannabinoid API and extract lines. Each isolate carries a Certificate of Analysis defining identity, purity, and residual-solvent limits.
Research Applications	- Epilepsy research - Anxiety-disorder studies - Sleep research
Distribution	Not DEA-scheduled — ships via standard commercial logistics with full Certificate of Analysis documentation; no DEA Form 222/CSOS order or Schedule I registration required for this compound class.

OHB-TP-006 - α -Bisabolol (Purified)



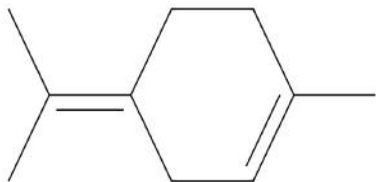
Compound Class & Purity	Sesquiterpene Purity/Content: $\geq 95\%$ (quantified via validated GC-MS or HPLC)
Source & Form	Cannabis-derived (Cannabis sativa L.) Form: Liquid – Bulk - Dropper
Key Research Interest	Anti-inflammatory; wound healing; antimicrobial
Regulatory Classification	Non-scheduled botanical isolate — terpenes and flavonoids fall outside DEA scheduling under the Controlled Substances Act, as they are not listed cannabinoids. Manufactured under cGMP (21 CFR Part 211) and targeting EU-GMP Part II compliance.
Quality & Compliance Standards	Sourced under the same GACP-cultivated, batch-traceable framework that underpins OHANA's cannabinoid API and extract lines. Each isolate carries a Certificate of Analysis defining identity, purity, and residual-solvent limits.
Research Applications	• Dermatological research • Topical formulation studies
Distribution	Not DEA-scheduled — ships via standard commercial logistics with full Certificate of Analysis documentation; no DEA Form 222/CSOS order or Schedule I registration required for this compound class.

OHB-TP-007 - Humulene (Purified)



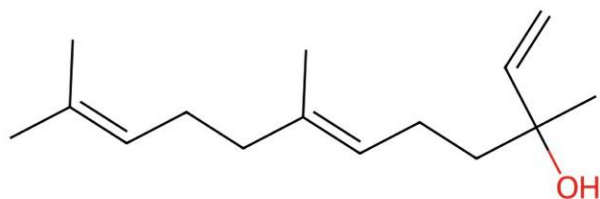
Compound Class & Purity	Sesquiterpene Purity/Content: $\geq 95\%$ (quantified via validated GC-MS or HPLC)
Source & Form	Cannabis-derived (Cannabis sativa L.) Form: Liquid – Bulk - Dropper
Key Research Interest	Anti-inflammatory; appetite suppression
Regulatory Classification	Non-scheduled botanical isolate — terpenes and flavonoids fall outside DEA scheduling under the Controlled Substances Act, as they are not listed cannabinoids [Ref. 8]. Manufactured under cGMP (21 CFR Part 211) and targeting EU-GMP Part II compliance.
Quality & Compliance Standards	Sourced under the same GACP-cultivated, batch-traceable framework that underpins OHANA's cannabinoid API and extract lines [Ref. 2]. Each isolate carries a Certificate of Analysis defining identity, purity, and residual-solvent limits.
Research Applications	• Metabolic research • Weight-management studies
Distribution	Not DEA-scheduled — ships via standard commercial logistics with full Certificate of Analysis documentation; no DEA Form 222/CSOS order or Schedule I registration required for this compound class.

OHB-TP-008 - Terpinolene (Purified)



Compound Class & Purity	Monoterpene Purity/Content: $\geq 95\%$ (quantified via validated GC-MS or HPLC)
Source & Form	Cannabis-derived (<i>Cannabis sativa</i> L.) Form: Liquid
Key Research Interest	Sedative; antioxidant; anti-proliferative
Regulatory Classification	Non-scheduled botanical isolate — terpenes and flavonoids fall outside DEA scheduling under the Controlled Substances Act, as they are not listed cannabinoids [Ref. 8]. Manufactured under cGMP (21 CFR Part 211) and targeting EU-GMP Part II compliance.
Quality & Compliance Standards	Sourced under the same GACP-cultivated, batch-traceable framework that underpins OHANA's cannabinoid API and extract lines [Ref. 2]. Each isolate carries a Certificate of Analysis defining identity, purity, and residual-solvent limits.
Research Applications	• Oncology research • Sleep studies
Distribution	Not DEA-scheduled — ships via standard commercial logistics with full Certificate of Analysis documentation; no DEA Form 222/CSOS order or Schedule I registration required for this compound class.

OHB-TP-009 - Nerolidol (Purified)



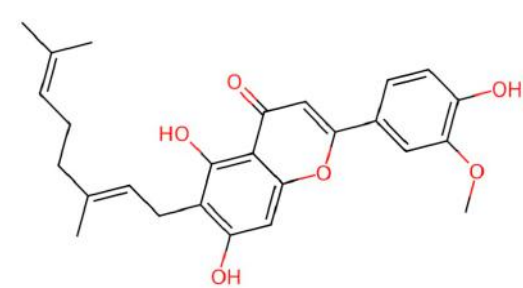
Compound Class & Purity	Sesquiterpene Purity/Content: $\geq 95\%$ (quantified via validated GC-MS or HPLC)
Source & Form	Cannabis-derived (<i>Cannabis sativa</i> L.) Form: Liquid
Key Research Interest	Skin-penetration enhancer; anti-parasitic; sedative
Regulatory Classification	Non-scheduled botanical isolate — terpenes and flavonoids fall outside DEA scheduling under the Controlled Substances Act, as they are not listed cannabinoids [Ref. 8]. Manufactured under cGMP (21 CFR Part 211) and targeting EU-GMP Part II compliance.
Quality & Compliance Standards	Sourced under the same GACP-cultivated, batch-traceable framework that underpins OHANA's cannabinoid API and extract lines [Ref. 2]. Each isolate carries a Certificate of Analysis defining identity, purity, and residual-solvent limits.
Research Applications	• Transdermal delivery research • Topical formulation studies
Distribution	Not DEA-scheduled — ships via standard commercial logistics with full Certificate of Analysis documentation; no DEA Form 222/CSOS order or Schedule I registration required for this compound class.

OHB-TP-010 - Cannabis Terpene Blend



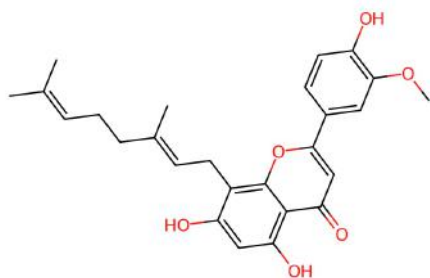
Compound Class & Purity	Multi-terpene blend Purity/Content: Standardized ratios (quantified via validated GC-MS or HPLC)
Source & Form	Cannabis-derived (Cannabis sativa L.) Form: Liquid
Key Research Interest	Full entourage effect; strain-specific effects
Regulatory Classification	Non-scheduled botanical isolate — terpenes and flavonoids fall outside DEA scheduling under the Controlled Substances Act, as they are not listed cannabinoids. Manufactured under cGMP (21 CFR Part 211) and targeting EU-GMP Part II compliance.
Quality & Compliance Standards	Sourced under the same GACP-cultivated, batch-traceable framework that underpins OHANA’s cannabinoid API and extract lines. Each isolate carries a Certificate of Analysis defining identity, purity, and residual-solvent limits.
Research Applications	- Combinatorial terpene-cannabinoid research - Strain-differentiation studies
Distribution	Not DEA-scheduled — ships via standard commercial logistics with full Certificate of Analysis documentation; no DEA Form 222/CSOS order or Schedule I registration required for this compound class.

OHB-TPFA-011 - Flavonoid Extract (Cannflavin A)



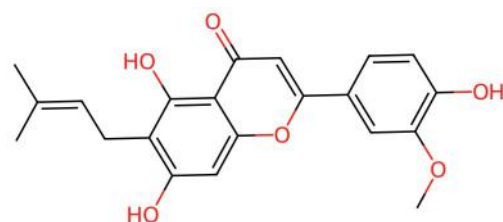
Compound Class & Purity	Flavonoid Purity/Content: Research-grade (quantified via validated GC-MS or HPLC)
Source & Form	Cannabis-derived (Cannabis sativa L.) Form: Powder / oil
Key Research Interest	Anti-inflammatory (reported to trail aspirin potency in preclinical assays); neuroprotection
Regulatory Classification	Non-scheduled botanical isolate — terpenes and flavonoids fall outside DEA scheduling under the Controlled Substances Act, as they are not listed cannabinoids [Ref. 8]. Manufactured under cGMP (21 CFR Part 211) and targeting EU-GMP Part II compliance.
Quality & Compliance Standards	Sourced under the same GACP-cultivated, batch-traceable framework that underpins OHANA’s cannabinoid API and extract lines [Ref. 2]. Each isolate carries a Certificate of Analysis defining identity, purity, and residual-solvent limits.
Recommended Research Applications	- Inflammation research - Novel phytochemical studies
Distribution	Not DEA-scheduled — ships via standard commercial logistics with full Certificate of Analysis documentation; no DEA Form 222/CSOS order or Schedule I registration required for this compound class.

OHB-TPFB-012 - Flavonoid Extract (Cannflavin B)



Compound Class & Purity	Flavonoid Purity/Content: Research-grade (quantified via validated GC-MS or HPLC)
Source & Form	Cannabis-derived (<i>Cannabis sativa</i> L.) Form: Powder / oil
Key Research Interest	Anti-inflammatory (reported to exceed aspirin potency in preclinical assays); neuroprotection
Regulatory Classification	Non-scheduled botanical isolate — terpenes and flavonoids fall outside DEA scheduling under the Controlled Substances Act, as they are not listed cannabinoids [Ref. 8]. Manufactured under cGMP (21 CFR Part 211) and targeting EU-GMP Part II compliance.
Quality & Compliance Standards	Sourced under the same GACP-cultivated, batch-traceable framework that underpins OHANA's cannabinoid API and extract lines [Ref. 2]. Each isolate carries a Certificate of Analysis defining identity, purity, and residual-solvent limits.
Research Applications	• Inflammation research • Novel phytochemical studies
Distribution	Not DEA-scheduled — ships via standard commercial logistics with full Certificate of Analysis documentation; no DEA Form 222/CSOS order or Schedule I registration required for this compound class.

OHB-TPFC-013 - Flavonoid Extract (Cannflavin C)



Compound Class & Purity	Flavonoid Purity/Content: Research-grade (quantified via validated GC-MS or HPLC)
Source & Form	Cannabis-derived (<i>Cannabis sativa</i> L.) Form: Powder / oil
Key Research Interest	Anti-inflammatory (reported to exceed aspirin potency in preclinical assays); neuroprotection
Regulatory Classification	Non-scheduled botanical isolate — terpenes and flavonoids fall outside DEA scheduling under the Controlled Substances Act, as they are not listed cannabinoids [Ref. 8]. Manufactured under cGMP (21 CFR Part 211) and targeting EU-GMP Part II compliance.
Quality & Compliance Standards	Sourced under the same GACP-cultivated, batch-traceable framework that underpins OHANA's cannabinoid API and extract lines [Ref. 2]. Each isolate carries a Certificate of Analysis defining identity, purity, and residual-solvent limits.
Recommended Research Applications	• Inflammation research • Novel phytochemical studies
Distribution	Not DEA-scheduled — ships via standard commercial logistics with full Certificate of Analysis documentation; no DEA Form 222/CSOS order or Schedule I registration required for this compound class.



SECTION 6 - Formulation Guide & Delivery Platforms

Dosage Forms and Excipient Systems Supported by OHANA Cannabinoid APIs

OHANA Bio Pharma's cannabinoid Active Pharmaceutical Ingredients are engineered as versatile, formulation-ready building blocks compatible with the full range of pharmaceutical dosage forms and delivery platforms used in modern drug development. This Formulation Guide presents twelve validated dosage-form and delivery-platform pathways — spanning oral solid, oral liquid, transdermal, topical, parenteral, suppository, and inhalation routes — each cross-referenced to the specific OHANA API isolates (Section IV) best suited to its physicochemical requirements. Every platform is presented with its excipient system, fill/dose range, manufacturing process, applicable regulatory precedent, and quality and compliance standards, enabling pharmaceutical partners, CDMOs, and academic investigators to rapidly assess formulation feasibility for IND-enabling development, 505(b)(2) bridging programs, and NIH/NIDA-aligned pharmacology research.



Products in This Section

- OHB-FORM-001** — Soft-Gel Capsules — Oral Solid Dosage
- OHB-FORM-002** — Hard Capsules (Powder-in-Cap) — Oral Solid Dosage
- OHB-FORM-003** — Tablets (Immediate/Extended Release) — Oral Solid Dosage
- OHB-FORM-004** — Oral Solution (Epidiolex-Class) — Oral Liquid Dosage
- OHB-FORM-005** — Sublingual Tincture — Oral Liquid Dosage
- OHB-FORM-006** — Oromucosal Spray (Sativex-Class) — Oral Liquid Dosage
- OHB-FORM-007** — Transdermal Patch — Transdermal & Topical
- OHB-FORM-008** — Topical Cream/Gel — Transdermal & Topical
- OHB-FORM-009** — Intraperitoneal Injectable — Parenteral — Investigational
- OHB-FORM-010** — Intravenous (IV) Cyclodextrin Complex — Parenteral — Investigational
- OHB-FORM-011** — Dry Powder Inhaler (DPI) — Inhalation — Investigational
- OHB-FORM-012** — Nebulized Solution — Inhalation — Investigational

How to Use This Section

Section 6 is organized by route of administration, in the order that cannabinoid drug development programs typically encounter them: oral solid (§6.1) and oral liquid (§6.2) — the two most mature routes with the largest publicly available regulatory precedent; transdermal and topical (§6.3) — sustained systemic and localized non-systemic delivery bypassing first-pass metabolism; parenteral (§6.4) — preclinical intraperitoneal and Phase I intravenous platforms that anchor pharmacokinetic and toxicology packages; suppository — an enhanced-bioavailability route uniquely compatible with cannabinoid acids; and inhalation (§6.5) — rapid-onset pulmonary delivery for acute-indication research.

Applicable Standards Across All Platforms

Every OHANA formulation platform is developed, released, and stability-tested against the same core compendial and ICH framework: assay and impurities per ICH Q2(R2) and Q3A/Q3B; residual solvents per ICH Q3C; elemental impurities per ICH Q3D; genotoxic impurities per ICH M7; content uniformity per USP <905>; dissolution per USP <711>; microbial limits per USP <61>/<62>; sterility (parenteral, inhalation) per USP <71> with bacterial endotoxin per USP <85>; particulate matter for injectables per USP <788>; and stability per ICH Q1A(R2) with photostability per ICH Q1B where warranted. GMP manufacture follows ICH Q7 for APIs and ICH Q8/Q9/Q10 for drug-product development, quality risk management, and pharmaceutical quality systems. Every batch is released under a Certificate of Analysis and shipped under DEA Schedule I chain of custody consistent with the constituent API's controlled-substance status.

6.1 Oral Solid Dosage (OSD) - Capsule and tablet platforms for chronic, steady-state, and acid-sensitive cannabinoid dosing.

Oral solid dosage (OSD) is the workhorse of pharmaceutical cannabinoid development: it delivers reproducible unit dosing, extended shelf life, and the most mature regulatory dossier of any delivery route. OHANA supports three OSD platforms — soft-gel capsules for lipophilic neutral isolates (CBD, CBG, CBC, CBDv), hard powder-fill capsules engineered to preserve the acidic cannabinoid pharmacology of CBDA, CBGA, and THCA under strict cold-processed manufacture, and compressed immediate- or extended-release tablets for crystalline, compressible isolates such as CBD and CBN. Each platform is release-tested to USP <905> content uniformity, USP <711> dissolution, and ICH Q1A(R2) stability, with impurity control per ICH Q3A/Q3B and residual solvents per ICH Q3C. Together these three platforms cover the majority of chronic-dosing, pediatric, and steady-state 505(b)(2) programs referencing the approved CBD oral reference-listed drug precedent.

OHB-FORM-001 - Soft-Gel Capsules - Oral Solid Dosage

Delivery Platform & Compatible APIs	Oral solid dosage — gelatin-encapsulated liquid/suspension fill (rotary-die or seamless soft-gelatin manufacture). Compatible with lipophilic neutral isolates: CBD (OHB-API-001), CBG (OHB-API-003), CBC (OHB-API-006), CBDv (OHB-API-007).
Excipient System	Medium-chain triglycerides (MCT), olive oil, or sesame oil carrier; beeswax as thickening/suspending agent; gelatin (bovine or fish) or HPMC (vegetarian) shell with glycerin/sorbitol plasticizer.
Fill Weight / Dose Range	5–50 mg API per capsule; fill volumes 0.3–1.0 mL.
Manufacturing Process	API dissolved or suspended in warmed oil carrier under nitrogen blanket to limit oxidation; homogenized fill metered into gelatin shell via rotary-die encapsulation; capsules dried and inspected for seam integrity.
Regulatory Precedent & Quality Standards	Analogous to marketed cannabinoid and nutraceutical soft-gel formats; supports 505(b)(2) bridging studies referencing oil-based oral bioavailability data. Content uniformity per USP <905>; dissolution per USP <711>; residual solvents ICH Q3C; microbial limits USP <61> / <62>; shell integrity and leak testing per batch.
R&D Applications	Chronic-dosing pharmacokinetic studies; pediatric and adult IND-enabling formulation development; comparative bioavailability vs. neat oil tincture.
Distribution & Handling	Shipped under DEA-registered controlled-substance chain of custody consistent with the constituent API's Schedule I classification (Drug Code 7350/7360); store 15–25°C, protect from heat and humidity.

OHB-FORM-002 - Hard Capsules (Powder-in-Cap) - Oral Solid Dosage

Delivery Platform & Compatible APIs	Oral solid dosage — dry powder-fill two-piece hard capsule (HPMC or gelatin shell). Compatible with acid-stable, cold-processed cannabinoid acids: CBDA (OHB-API-010), CBGA (OHB-API-011), THCA (OHB-API-009).
Excipient System	Microcrystalline cellulose (diluent/flow aid), magnesium stearate (lubricant), colloidal silicon dioxide (glidant); no aqueous or thermal processing steps to avoid decarboxylation.
Fill Weight / Dose Range	10–100 mg API per capsule; total fill weight 150–400 mg.
Manufacturing Process	Cold-blended dry powder to preserve acidic cannabinoid integrity (processed and stored ≤25°C, protected from light); encapsulated via volumetric dosing on hard-capsule filling equipment; no heat exposure at any stage.
Regulatory Precedent & Quality Standards	Supports emerging THCA/CBDA IND programs investigating non-decarboxylated cannabinoid acid pharmacology. Assay and related-substances by validated HPLC-UV (ICH Q2(R2)); acid-to-neutral conversion limit specification; USP <905> content uniformity; cold-chain validated per ICH Q1.
R&D Applications	Acidic cannabinoid pharmacology and anti-inflammatory research; comparative studies vs. decarboxylated neutral analogs; entourage/synergy studies.
Distribution & Handling	Cold-chain (2–8°C) shipment with temperature-monitored chain of custody; DEA Schedule I controlled-substance handling per constituent API.

OHB-FORM-003 - Tablets (IR/ER) - Oral Solid Dosage

Delivery Platform & Compatible APIs	Oral solid dosage — compressed tablet, immediate-release (IR) or hydrophilic-matrix extended-release (ER). Compatible with crystalline, compressible isolates: CBD (OHB-API-001), CBN (OHB-API-004).
Excipient System	Hydroxypropyl methylcellulose (HPMC, release-controlling polymer for ER), lactose monohydrate (diluent), colloidal silicon dioxide (glidant), magnesium stearate (lubricant).
Fill Weight / Dose Range	5–25 mg API per tablet; target tablet weight 150–500 mg.
Manufacturing Process	Direct compression or wet granulation followed by tablet compression on rotary tablet press; ER variants use HPMC matrix ratio to achieve target 8–12 hr release profile; film-coating optional for taste-masking/light protection.
Regulatory Precedent & Quality Standards	Formulation science parallels approved CBN/CBD nutraceutical and investigational tablet programs. Dissolution per USP <711> (multi-point for ER); friability USP <1216>; hardness and content uniformity USP <905>; stability per ICH Q1A(R2).
R&D Applications	Sleep and sedation research (CBN); steady-state PK studies for extended-release CBD; formulation-comparison bioequivalence studies.
Distribution & Handling	Standard controlled-substance chain of custody; ambient storage (15–25°C) with light protection for coated tablets.

Development & Regulatory Notes — Oral Solid Dosage

All three OSD platforms are supported end-to-end at OHANA — from API isolation and characterization through excipient qualification, process development, three-batch registration stability, and ICH Q7-aligned GMP manufacture. Soft-gel and tablet platforms are the primary vehicles for 505(b)(2) bridging programs that reference the approved CBD oral solution (Epidiolex®-class) reference-listed drug, while the cold-processed hard-capsule platform is purpose-built for IND-enabling investigation of non-decarboxylated cannabinoid acids (CBDA, CBGA, THCA) whose acid-to-neutral conversion is tightly specified and monitored across shelf life. Batch sizes scale from clinical-supply (5–25 kg API charge) to commercial launch quantities, and every lot is released under a Certificate of Analysis referencing USP <905>, USP <711>, USP <61>/<62>, ICH Q2(R2)-validated HPLC-UV methods, and DEA Schedule I chain-of-custody documentation.

6.2 Oral Liquid Dosage - Solution, tincture, and oromucosal spray platforms modeled on approved cannabinoid reference-listed drugs.

Oral liquid formats deliver two capabilities that solid dosage forms cannot: pediatric- and geriatric-friendly mg/kg titration in a graduated oral syringe, and rapid onset via sublingual or oromucosal absorption that bypasses a portion of first-pass hepatic metabolism. OHANA's oral liquid portfolio is deliberately modeled on the two FDA- and EMA-approved cannabinoid reference-listed drugs: the CBD oral solution (Epidiolex®-class) and the CBD:THC 1:1 oromucosal spray (Sativex®-class). The portfolio also includes a sublingual tincture platform that supports single- and multi-cannabinoid ratio formulations for entourage-effect and rapid-onset PK research. All three platforms use pharmaceutical-grade sesame oil, MCT, or ethanol/propylene glycol carrier systems, are released under ICH Q2(R2)-validated HPLC-UV assay, ICH Q3B impurity control, and ICH Q1A(R2)/Q1B photostability programs, and are filled into amber glass under nitrogen headspace to protect cannabinoid stability across shelf life.

OHB-FORM-004 - Oral Solution (Epidiolex-Class) - Oral Liquid Dosage

Delivery Platform & Compatible APIs	Oral liquid dosage — high-concentration API solution, reference-product-class formulation. Formulated with CBD ≥99.5% pharmaceutical-grade isolate (OHB-API-001).
Excipient System	Refined sesame oil carrier, dehydrated alcohol (ethanol) co-solvent, sucralose sweetener, strawberry flavor, benzyl alcohol (optional preservative).
Fill Weight / Dose Range	Target concentrate 100 mg/mL; supplied in graduated oral syringe or calibrated dosing device for mg/kg titration.
Manufacturing Process	API dissolved in warmed sesame oil/ethanol co-solvent system under controlled agitation; in-process assay by HPLC; filled into amber glass bottles under nitrogen headspace to limit oxidative degradation.
Regulatory Precedent & Quality Standards	Formulation architecture directly modeled on the approved CBD oral solution reference listed drug (Epidiolex®-class), supporting 505(b)(2) and ANDA-adjacent bridging programs. Assay/impurities per ICH Q2(R2)/Q3B; microbial limits USP <61>/<62>; stability per ICH Q1A(R2) with photostability per ICH Q1B.
R&D Applications	Pediatric and adult refractory-epilepsy research; dose-titration pharmacokinetic studies; reference-standard comparator arm for bioequivalence trials.
Distribution & Handling	Refrigerated or controlled ambient shipment per stability data; DEA Schedule I chain of custody; amber glass, light-protected packaging.

OHB-FORM-005 - Sublingual Tincture - Oral Liquid Dosage

Delivery Platform & Compatible APIs	Oral liquid dosage — sublingual/buccal absorption, spray- or dropper-metered. Single- or multi-cannabinoid blends: CBD (OHB-API-001), CBG (OHB-API-003), CBN (OHB-API-004), CBDv (OHB-API-007).
Excipient System	Ethanol/MCT co-solvent system (adjustable ratio for solubility and mouthfeel); natural flavoring agents; optional stevia or sucralose sweetener.
Fill Weight / Dose Range	10–50 mg/mL API concentration; delivered via calibrated metered-dose spray pump (typically 0.1 mL/actuation) or graduated dropper.
Manufacturing Process	API solubilized in ethanol, blended with MCT carrier oil, homogenized, and filtered (0.45 µm) prior to filling into amber glass bottles fitted with metered spray or dropper closures.
Regulatory Precedent & Quality Standards	Supports rapid-onset pharmacokinetic comparator studies against oral-solution and capsule platforms. Assay by HPLC-UV; spray/dropper dose-delivery uniformity testing; microbial limits USP <61>; stability per ICH Q1A(R2).
R&D Applications	Rapid-onset PK/PD studies; multi-cannabinoid ratio (entourage) research; patient-titratable dosing protocols.
Distribution & Handling	DEA-registered chain of custody; ambient storage, light-protected amber glass.

OHB-FORM-006 - Oromucosal Spray (Sativex-Class) - Oral Liquid Dosage

Delivery Platform & Compatible APIs	Oral liquid dosage — oromucosal (buccal/sublingual) metered-dose spray, reference-product-class formulation. Fixed 1:1 co-formulation of CBD (OHB-API-001) and Δ9-THC (OHB-API-002).
Excipient System	Ethanol/propylene glycol co-solvent base; peppermint flavor; anhydrous formulation (no aqueous phase) to preserve cannabinoid stability.
Fill Weight / Dose Range	2.7 mg CBD + 2.7 mg Δ9-THC per actuation; multi-dose metered spray pump (typically 90 actuations per 10 mL vial).
Manufacturing Process	Dual-API co-dissolution in ethanol/propylene glycol under controlled temperature; in-process HPLC assay confirms 1:1 ratio; filled into calibrated multi-dose spray-pump vials under inert headspace.
Regulatory Precedent & Quality Standards	Formulation directly parallels the approved CBD:THC 1:1 oromucosal spray reference listed drug (Sativex®-class), supporting comparative bioavailability and 505(b)(2) programs. Dose-delivery uniformity per USP spray/aerosol guidance; assay/ratio verification by HPLC-UV (ICH Q2(R2)); stability per ICH Q1A(R2).
R&D Applications	Spasticity and neuropathic pain research; combination-ratio (entourage) pharmacology; comparator arm for THC:CBD combination-product trials.
Distribution & Handling	DEA Schedule I chain of custody (Drug Codes 7350/7370 constituent APIs); FDA-approved finished combination products may qualify for Schedule III per the April 2026 DOJ/DEA Final Order described in the regulatory notices below.

Development & Regulatory Notes — Oral Liquid Dosage

Because the CBD oral solution and CBD:THC 1:1 oromucosal spray are the only two FDA-approved cannabinoid drug products with substantive publicly available CMC precedent, OHANA's oral liquid platforms are the most direct vehicles for 505(b)(2) bridging strategies — supporting comparative bioavailability, dose-uniformity, and photostability studies against reference-listed drug samples under an anhydrous or low-water process. Metered dose-delivery uniformity is verified per USP spray/aerosol guidance for the oromucosal and sublingual formats. Blinded-comparator supply for clinical trials is available under OHB-SVC-004 (Section VII).

6.3 Transdermal & Topical - Sustained systemic and localized non-systemic delivery platforms bypassing first-pass hepatic metabolism.

Transdermal and topical delivery platforms are indispensable to modern cannabinoid drug development for two reasons: they bypass first-pass hepatic metabolism entirely — improving systemic bioavailability of highly lipophilic cannabinoids — and they enable localized, minimal-systemic-exposure treatment paradigms for dermatologic, inflammatory, and musculoskeletal indications. OHANA supports two established platforms in this class: a matrix or reservoir-type adhesive transdermal patch engineered for 3- to 7-day sustained systemic delivery with target flux rates of 1–5 mg/day, and a semi-solid topical cream or gel at 1–5% w/w API concentration for localized, non-systemic-intent administration. Formulation development for both platforms follows FDA transdermal and topical guidance, with in vitro release testing (IVRT) via vertical diffusion cell and in vitro permeation testing (IVPT) via Franz diffusion cell used to characterize release kinetics and skin permeation prior to any in vivo study.

OHB-FORM-007 - Transdermal Patch – (Transdermal)

Delivery Platform & Compatible APIs	Transdermal — matrix or reservoir-type adhesive patch for sustained systemic delivery. Compatible with CBD (OHB-API-001), CBG (OHB-API-003), Δ9-THC (OHB-API-002).
Excipient System	Acrylic or silicone pressure-sensitive adhesive matrix; penetration enhancers (oleic acid, propylene glycol, or terpene-based enhancers); occlusive polyester backing film and release liner.
Fill Weight / Dose Range	Target flux rate 1–5 mg/day systemic delivery; patch loading typically 10–40 mg API per unit for a 3–7 day wear period.
Manufacturing Process	API dispersed or dissolved into adhesive/enhancer matrix; solvent-cast onto backing film, dried, laminated with release liner, and die-cut to unit dose; in-process flux verified via Franz diffusion cell testing.
Regulatory Precedent & Quality Standards	Formulation science parallels approved transdermal opioid and hormone patch platforms. In vitro release (IVRT) and permeation (IVPT) testing per FDA transdermal guidance; adhesion and cold-flow testing; stability per ICH Q1A(R2).
R&D Applications	Sustained-release systemic PK studies; chronic pain and spasticity research; first-pass metabolism avoidance studies.
Distribution & Handling	DEA-registered chain of custody; ambient storage in child-resistant, sealed pouch packaging.

OHB-FORM-008 - Topical Cream/Gel (Topical)

Delivery Platform & Compatible APIs	Topical — localized (non-systemic-intent) semi-solid dosage form. Compatible with CBD (OHB-API-001), CBG (OHB-API-003), CBC (OHB-API-006).
Excipient System	Emollient oil-in-water or water-in-oil emulsion base (cetyl alcohol, glyceryl stearate), carbomer or HPMC gelling agent (for gel format), preservative system (phenoxyethanol or equivalent).
Fill Weight / Dose Range	1–5% w/w API concentration; packaged in 30–100 g tubes or airless-pump dispensers.
Manufacturing Process	API solubilized/dispersed into oil phase or pre-gel dispersion; emulsified or gelled under controlled shear and temperature; homogenized, deaerated, and filled into tubes or pump containers.
Regulatory Precedent & Quality Standards	Aligns with topical anti-inflammatory/dermatological semi-solid development pathways under 21 CFR 333/OTC monograph or NDA topical precedent. In vitro release testing (IVRT) via vertical diffusion cell; preservative efficacy testing (USP <51>); microbial limits USP <61>/<62>; stability per ICH Q1A(R2).
R&D Applications	Anti-inflammatory and dermatology research; localized pain/arthritis research; minimal-systemic-exposure comparator studies.
Distribution & Handling	Standard controlled-substance chain of custody; ambient storage, protect from freezing.

Development & Regulatory Notes — Transdermal & Topical

The transdermal patch platform is modeled on the CMC precedent of approved transdermal opioid, hormone, and nicotine products — a mature body of guidance covering adhesion, cold-flow, residual-drug, and wear-time testing directly applicable to cannabinoid patches. The topical cream and gel platform aligns with the semi-solid pathway under 21 CFR 333 (OTC monograph) and NDA topical precedent and is characterized for preservative efficacy per USP <51>, microbial limits per USP <61>/<62>, and stability per ICH Q1A(R2). Both platforms support 505(b)(2) bridging studies and minimal-systemic-exposure comparator arms across dermatology, chronic pain, spasticity, and localized-inflammation programs.

6.4 Parenteral (Investigational) - Preclinical and Phase I injectable platforms for pharmacokinetic characterization and IND-enabling toxicology.

Parenteral platforms are essential to establishing a rigorous pharmacokinetic and toxicology foundation for any cannabinoid IND. Intravenous administration provides the absolute bioavailability reference arm — the F=1 comparator against which every oral, sublingual, transdermal, and inhalation route is characterized — and preclinical intraperitoneal dosing supports the rodent and non-rodent PK/PD, toxicology, and safety-pharmacology packages that underwrite the IND. OHANA supports two investigational parenteral platforms: a preclinical intraperitoneal injectable formulated in a Cremophor EL/dehydrated ethanol co-solvent system that mirrors the co-solvent vehicle used across the peer-reviewed cannabinoid pharmacology literature, and a Phase I clinical intravenous solution using hydroxypropyl- β -cyclodextrin (HPBCD) inclusion-complex solubilization engineered to deliver a stable, sterile, filterable aqueous formulation suitable for first-in-human dosing.

OHB-FORM-009 - Intraperitoneal Injectable - Parenteral (Research Use Only)

Delivery Platform & Compatible APIs	Parenteral — investigational injectable solution, non-clinical/preclinical research use. Formulated with CBD (OHB-API-001), Δ^9 -THC (OHB-API-002).
Excipient System	Cremophor EL (polyoxyl castor oil) / dehydrated ethanol co-solvent system, diluted in sterile saline immediately prior to administration.
Fill Weight / Dose Range	Research-formulated concentrations per protocol-specific dosing (typically 1–10 mg/mL stock solution); research use only, not for human administration.
Manufacturing Process	API dissolved in Cremophor EL/ethanol co-solvent under sterile-research conditions; aseptically filtered (0.22 μ m) and aliquoted into sterile research-grade vials.
Regulatory Precedent & Quality Standards	Formulation approach parallels established preclinical cannabinoid pharmacology literature co-solvent systems. Sterility and endotoxin testing (USP <71>/<85>) for research-grade release; assay by HPLC-UV; supplied with Certificate of Analysis; labeled “Research Use Only — Not for Human or Veterinary Use.”
R&D Applications	Preclinical pharmacokinetic and pharmacodynamic studies; rodent/animal model dosing for IND-enabling toxicology packages.
Distribution & Handling	Shipped frozen or refrigerated to preclinical research institutions under DEA Schedule I research registration; chain-of-custody documentation required for all controlled-substance transfers.

OHB-FORM-010 - IV Cyclodextrin Complex – Parenteral Phase I Trial Supply

Delivery Platform & Compatible APIs	Parenteral — investigational IV solution using cyclodextrin inclusion-complex solubilization. Compatible with CBD (OHB-API-001), Δ^9 -THC (OHB-API-002).
Excipient System	Hydroxypropyl- β -cyclodextrin (HPBCD) inclusion complex, 200–400 mg/mL HPBCD complex concentration, water for injection, pH-adjusted buffer system.
Fill Weight / Dose Range	Phase I clinical trial supply available; dose strengths formulated per IND-specific protocol requirements.
Manufacturing Process	API complexed with HPBCD via controlled co-dissolution/lyophilization or aqueous complexation; sterile-filtered (0.22 μ m) and aseptically filled into single-use vials; lyophilized presentation available for extended shelf life.
Regulatory Precedent & Quality Standards	Formulation technology parallels FDA-approved cyclodextrin-solubilized IV products, supporting Phase I IND submissions. Sterility, endotoxin (USP <71>/<85>), particulate matter (USP <788>) testing; complexation efficiency and free-API limits by HPLC; stability per ICH Q1A(R2)/Q5C (if lyophilized).
R&D Applications	Phase I first-in-human IV pharmacokinetic studies; acute-dosing pharmacology (status epilepticus, acute pain) research; absolute bioavailability reference-arm studies.
Distribution & Handling	Cold-chain shipment (2–8°C) under DEA Schedule I clinical-trial-material chain of custody; supplied exclusively to IRB/IND-registered clinical sites.

Development & Regulatory Notes — Parenteral (Investigational)

Both parenteral platforms are supplied exclusively for investigational, non-commercial use. The intraperitoneal injectable is released under research-grade sterility (USP <71>) and endotoxin (USP <85>) and labeled "Research Use Only." The IV cyclodextrin-complex platform is released under Phase I clinical-trial-material specifications — USP <71>, USP <85>, USP <788>, HPLC complexation-efficiency and free-API limits, and ICH Q1A(R2)/Q5C stability where lyophilized — and is supplied exclusively to IRB- and IND-registered clinical sites under DEA Schedule I chain of custody.

6.5 Inhalation (Investigational) - Pulmonary delivery platforms for rapid-onset

pharmacokinetic and respiratory research.

Pulmonary delivery of cannabinoids offers the fastest onset and highest peak plasma concentration of any non-parenteral route — typically 1–3 minutes to C_{max} versus 60–120 minutes for oral dosing — making it the platform of choice for research into rapid-onset indications: acute anxiety and panic, breakthrough pain, refractory seizure rescue, and acute nausea. It also enables direct topical delivery to the pulmonary vasculature and airway epithelium, which is of active research interest for cannabinoid programs targeting respiratory inflammation and bronchodilation. OHANA supports two investigational inhalation platforms: a dry powder inhaler (DPI) in which jet-milled, micronized API (d₅₀ < 5 microns) is blended with inhalation-grade lactose carrier for deep-lung deposition, and a nebulized solution formulated in a propylene glycol / saline carrier system for jet or vibrating-mesh nebulizer delivery.

OHB-FORM-011 – Dry Powder Inhaler (DPI) - Inhalation - Research Use Only

Delivery Platform & Compatible APIs	Inhalation — investigational dry powder inhaler, device-metered pulmonary delivery. Compatible with CBD (OHB-API-001), CBG (OHB-API-003).
Excipient System	Micronized API blended with inhalation-grade lactose carrier (coarse-fine lactose blend for aerosolization efficiency).
Fill Weight / Dose Range	Micronized to particle size d ₅₀ < 5 microns for deep-lung deposition; unit-dose or multi-dose device metering per protocol.
Manufacturing Process	API micronized via jet-milling to target particle-size distribution; ordered mixing with carrier lactose under controlled humidity (<30% RH) to prevent agglomeration; filled into capsules or multi-dose reservoir devices.
Regulatory Precedent & Quality Standards	Formulation and characterization approach follows established DPI development guidance for inhaled small-molecule APIs; investigational, non-clinical/early-phase use. Aerodynamic particle size distribution (APSD) via next-generation impactor (NGI); fine particle fraction (FPF) determination; moisture control (Karl Fischer).
R&D Applications	Rapid-onset pulmonary pharmacokinetic research; respiratory and rapid-anxiolytic research applications; alternative-route bioavailability comparator studies.
Distribution & Handling	Desiccant-protected, moisture-controlled packaging; DEA Schedule I chain of custody; labeled “Research/Investigational Use Only.”

OHB-FORM-012 — Nebulized Solution — Inhalation — Research Use Only

Delivery Platform & Compatible APIs	Inhalation — investigational nebulized liquid formulation for pulmonary delivery via jet or mesh nebulizer. Formulated with CBD (OHB-API-001).
Excipient System	Propylene glycol carrier system, optionally buffered with saline for tonicity adjustment.
Fill Weight / Dose Range	Research-formulated concentrations per protocol; single-use unit-dose vials typical for investigational supply.
Manufacturing Process	API dissolved in propylene glycol/saline carrier under controlled conditions; sterile-filtered (0.22 µm) and aseptically filled into unit-dose ampoules or vials.
Regulatory Precedent & Quality Standards	Investigational-only formulation supporting early feasibility and pharmacokinetic characterization ahead of DPI or metered-dose-inhaler platform development. Sterility and endotoxin testing (USP <71>/<85>); assay by HPLC-UV; osmolality and pH specification for nebulizer compatibility; stability per ICH Q1A(R2).
R&D Applications	Preclinical and early-phase pulmonary pharmacokinetic research; rapid-onset dosing feasibility studies; nebulizer-device compatibility testing.
Distribution & Handling	Cold-chain shipment; DEA Schedule I research chain of custody; labeled “Research/Investigational Use Only — Not for Human Administration outside IND Protocol.”

Development & Regulatory Notes — Inhalation (Investigational)

Both inhalation platforms are supplied exclusively for research and investigational use and are labeled accordingly. DPI development at OHANA follows established FDA and EMA guidance for orally inhaled small-molecule products — aerodynamic particle-size distribution (APSD) via next-generation impactor (NGI), fine-particle fraction (FPF) determination, delivered-dose uniformity, and Karl-Fischer moisture control under strict humidity limits (< 30% RH) throughout manufacture. Nebulized formulations are released under USP <71> sterility, USP <85> bacterial endotoxin, ICH Q2(R2)-validated HPLC-UV assay, and osmolality and pH specifications for nebulizer device compatibility. Together the two platforms support rapid-onset PK characterization, respiratory-indication feasibility studies, and alternative-route bioavailability comparator arms.



Section 7 - Custom Manufacturing & CDMO Services

Across the Cultivation-to-Clinic Value Chain

OHANA Bio Pharma offers contract development and manufacturing (CDMO) services spanning the full cultivation-to-clinic value chain — from bespoke chemovar cultivation through API isolation, custom formulation, analytical testing, regulatory dossier support, and clinical trial material supply. Service scope, timeline, and pricing are project-dependent and scoped collaboratively with each research or pharmaceutical partner. Consistent with OHANA's 100% plant-derived, no-synthetic-cannabinoids policy, every custom manufacturing service is performed on naturally occurring, plant-derived cannabinoids, terpenes, and flavonoids isolated from GACP-cultivated *Cannabis sativa* L. — OHANA does not synthesize cannabinoids under any custom service engagement.

Custom Cannabis Cultivation: For researchers needing specific chemotypes, OHANA will offer Bespoke strain cultivation tailored to researcher-specified chemotype, potency, and terpene profile targets using OHANA's genetics library. Cultivation is conducted under WHO GACP guidelines for medicinal plants, with a scale-up pathway to cGMP for clinical-grade material. GACP → GMP | Lead Time: 16–24 weeks.

Custom Extraction, Purification & API Isolation: For pharmaceutical drug developers needing custom-tailored extraction (ethanol, CO₂, hydrocarbon), chromatographic isolation and purification of specific cannabinoid compounds to API-grade purity (≥98%), or terpene profiles. Processed under cGMP (21 CFR Part 211) with residual solvent testing per ICH Q3C [Ref. 9]. Supporting Chemistry, Manufacturing & Controls (CMC) documentation per ICH Q7 [Ref. 3] for IND/NDA and DMF filings.

Custom Formulation & Dosage Form: For clinical trial sponsors needing investigational product supply. Our development and manufacturing capabilities for custom finished dosage forms include capsules, tinctures, sprays, topicals, and suppositories. Manufactured under 503B outsourcing-facility cGMP standards for investigational and compounded product supply.

Analytical Services & Testing: For researchers, drug developers, and other manufacturers needing independent analysis outside of any product produced and manufactured by OHANA. We will provide all data for every product tested in accordance with ICH Q1 stability [Ref. 11], ICH Q3C residual solvents [Ref. 9], and ICH Q3D elemental impurities [Ref. 10] guidelines. FDA-registered laboratory | Lead Time: 1–4 weeks. Full cannabinoid and terpene profiling; stability testing (ICH Q1); impurity characterization; method validation; residual solvent testing.

Drug Master File (DMF/ASMF) & CMC Packaging: OHANA will file a DMF (Type II) or ASMF for cannabinoid APIs to support customer drug applications, IND applications, and CMC Packaging. Complete Chemistry, Manufacturing, and Controls (CMC) documentation package for IND submissions. Prepared consistent with FDA Type II DMF and EU ASMF procedural requirements underpinning IND, NDA, ANDA, and 505(b)(2) submissions. For 505(b)(2) sponsors; ANDA applicants; international drug dossier filers; and Investigators filing INDs; pharmaceutical sponsors. Assembled per 21 CFR Part 312 IND content and format requirements [Ref. 12] and ICH Q7/Q1/Q3 CMC guidance [Ref. 3][Ref. 9][Ref. 10][Ref. 11].

Clinical Trial Material Supply (CTM): For clinical trial sponsors requiring complete CTM supply, OHANA will provide GMP-compliant packaging, labeling, and supply chain management for clinical trial materials. All our products are packaged, labeled, and distributed under cGMP, with full chain-of-custody documentation supporting 21 CFR Part 312-compliant clinical trial conduct [Ref. 12].

Import/Export Coordination: OHANA's DEA authorization to export our products internationally is coordinated in accordance with the 1961 UN Single Convention on Narcotic Drugs, as amended [Ref. 13], and with DEA import/export permit requirements under 21 CFR Part 1312. This applies to international pharmaceutical companies and foreign research institutions purchasing any of our products.



SECTION 8 - Purchaser Requirements & Ordering Process

OHANA Bio Pharma, LLC is a DEA-registered bulk manufacturer of Schedule I cannabinoid Active Pharmaceutical Ingredients and plant-derived research material under Drug Codes 7350 (Marijuana Extract), 7360 (Marijuana), and 7370 (Tetrahydrocannabinols). Because these materials are controlled substances under the Controlled Substances Act, 21 U.S.C. § 801 et seq., every purchase is subject to federal registration, recordkeeping, and reporting obligations administered by the Drug Enforcement Administration (DEA) under 21 C.F.R. Chapter II, and to the Single Convention on Narcotic Drugs, 1961, 18 U.S.T. 1407. The requirements below apply to all domestic and international researchers, institutions, and pharmaceutical partners purchasing OHANA products and must be satisfied before any order can be accepted or fulfilled.

A. Purchaser Eligibility & Registration Requirements

- 1. Active DEA Registration:** Principal investigator (and consignee, if applicable) must hold a current DEA registration as a “Researcher” (or applicable registrant class) covering each specific Schedule I drug code being ordered (7350 / 7360 / 7370). (Reference - 21 U.S.C. § 822; 21 CFR Part 1301).
- 2. CSOS Certificate:** A valid, current Controlled Substance Ordering System (CSOS) digital certificate must be on file to support electronic ordering. (Reference - 21 CFR Part 1311).
- 3. FDA/Federal-Agency-Approved Protocol:** A detailed research protocol describing study purpose, methodology, dosing, and the quantity of substance required, consistent with DEA quota limits. (Reference - 21 CFR Part 1303).
- 4. Secure, Compliant Storage:** Documented evidence of adequate and secure storage — controlled access, monitoring, and inventory procedures — at the registered research location. (Reference - 21 CFR Part 1301)
- 5. Signed Bona Fide Supply Agreement (BFSA):** Executed BFSA on file with OHANA prior to first order; required for OHANA's DEA Form 189 (IMQ) submission referencing the purchaser. (Reference - 21 CFR Part 1318)
- 6. OHANA Researcher Registration Form:** Completed registration through OHANA's secure Account Portal, including company, contact, and consignee information. (OHANA SOP / 21 CFR Part 1318)

B. Bona Fide Supply Agreement (BFSA)

Every purchaser must execute OHANA's Bona Fide Supply Agreement before OHANA can complete a sale or include the purchaser in its DEA Form 189 (Individual Manufacturing Quota, or IMQ) submission. The BFSA requires the purchaser to provide the company name and address; the company phone and website; the point of contact (research investigator and consignee, if applicable); DEA registration number; and an authorized signature. By signing, both OHANA and the purchaser agree to comply with the Controlled Substances Act (21 U.S.C. § 801 et seq.), DEA Regulations (21 CFR Chapter II), the DEA Final Rule on Controls to Enhance the Cultivation of Marijuana for Research in the United States (85 FR 82333-01 (2020)), and the Single Convention on Narcotic Drugs, 1961. Additional researcher information — including OHANA's researcher registration form and a copy of the purchaser's CSOS certificate(s) — is required to complete any product purchase transaction.

C. OHANA Account Portal Registration

All purchasers must register on OHANA's secure Account Portal prior to placing an order. The portal allows purchasers to manage account information, access product support, and monitor order status, delivery, and tracking. It also enables electronic transfer of records between purchaser and OHANA to support regulatory and institutional compliance reporting and any required submissions to regulatory authorities. Registered purchasers additionally gain access to the OHANA Researcher Exchange Network (OREN), a complimentary platform for secure communication and collaboration among research investigators.

D. Ordering & Fulfillment Process — DEA Form 222

All sales of Schedule I and II substances are executed using the official DEA Form 222. The transactional process is as follows:

- **Verification Process:** OHANA confirms the purchaser's DEA registration is active and valid for the specific substance ordered, and that the shipping address matches the address on the DEA certificate.
- **Order Submission:** The purchaser completes DEA Form 222, retains one copy, and sends the original plus one additional copy to OHANA.
- **Review & Fulfillment:** OHANA reviews Form 222 for accuracy and once verified, fulfills the order, recording the quantity shipped and date directly on the form.
- **Documentation & Reporting:** OHANA retains its copy of the executed Form 222; within two business days of shipment, the original is sent to the nearest DEA Diversion Field Office, and the sale is reported to the DEA via ARCOS.
- **Receipt Confirmation:** Upon receiving the shipment, the purchaser confirms the contents, records the date and quantity received on their copy of Form 222, files it, and maintains detailed records of the substance's use in research.

E. Recordkeeping, Reporting & Compliance Obligations

- Maintain complete, auditable records of the receipt, storage, use, and disposition of all controlled substance material received from OHANA, in accordance with 21 CFR Part 1304.
- Retain executed DEA Form 222 copies and the signed BFSA for the duration required under applicable DEA recordkeeping regulations.
- Make records available for DEA inspection and verification upon request, consistent with 21 U.S.C. § 823(a).

***Note:** OHANA retains purchaser account records for up to two years after the last transaction to support audits and regulatory reporting.*

F. International & Export Purchasers

Export of OHANA products to foreign jurisdictions is available to qualified purchasers, subject to applicable DEA, FDA, and international regulatory requirements, including the Single Convention on Narcotic Drugs, 1961, 18 U.S.T. 1407. International purchasers should confirm import authorization, permit, and documentation requirements in their own jurisdiction with OHANA prior to placing an order, as additional lead time and paperwork may apply.

G. Pricing, Payment, Financing & Logistics

- Product Pricing is available upon request. Please contact us at api.info@ohana-biopharma.com or call us at **(401) 345 – 5246**
- Select product financing terms are available to qualified purchasers, subject to credit and compliance review.
- All shipments use durable, shock-resistant packaging engineered to protect product in transit, with shipment tracking for end-to-end visibility.
- High-security video surveillance and controlled, secure storage conditions are maintained at OHANA's facility for all product awaiting shipment.
- Purchasers are responsible for maintaining receiving and storage conditions consistent with DEA security requirements and product stability specifications.

Quick-Reference Checklist — Before Placing Your First Order

- ☐ Active DEA registration covering the applicable drug code(s) (7350 / 7360 / 7370)
- ☐ Valid CSOS certificate on file
- ☐ FDA- or federal-agency-approved research protocol with defined quantity needs
- ☐ Documented secure storage at the registered research location
- ☐ Completed OHANA Researcher Registration Form via the Account Portal
- ☐ Signed Bona Fide Supply Agreement (BFSA) on file with OHANA
- ☐ DEA Form 222 prepared and ready for each order



Legal Notices & Regulatory Disclaimers

This page applies to the OHANA Bio Pharma, LLC product catalog in its entirety, including the Services Overview and the Section 7 — Custom Manufacturing & CDMO Services pages that precede it. It is provided for informational purposes and does not modify or supersede any executed agreement between OHANA Bio Pharma, LLC (“OHANA”) and a purchaser or research partner.

Controlled Substance Notice

OHANA Bio Pharma, LLC is a DEA-registered bulk manufacturer of Schedule I cannabinoid Active Pharmaceutical Ingredients and plant-derived research material under Drug Codes 7350 (Marijuana Extract), 7360 (Marijuana), and 7370 (Tetrahydrocannabinols). All materials described in this catalog are controlled substances under the Controlled Substances Act, 21 U.S.C. § 801 et seq., and are subject to Drug Enforcement Administration (DEA) regulation under 21 C.F.R. Chapter II, and to the Single Convention on Narcotic Drugs, 1961, 18 U.S.T. 1407, as amended. [Ref. 13]

No Offer to Sell; Registration Required

Nothing in this catalog constitutes an offer to sell, a solicitation of an offer to buy, or a binding quotation for any controlled substance. Sale, transfer, and shipment of any product referenced herein will occur only to purchasers holding an active, applicable DEA registration covering the specific Schedule I drug code(s) requested, and only after OHANA has completed its purchaser eligibility, Bona Fide Supply Agreement, and DEA Form 222 verification procedures described in Section 8 — Purchaser Requirements & Ordering Process.

Research and Regulatory Use Only

Products described in this catalog are intended solely for registered research investigations, pharmaceutical development, and other DEA- and FDA-authorized uses. They are not offered, and may not be used, for human consumption, retail sale, or any non-research commercial purpose absent separate FDA approval or authorization.

Not Medical, Legal, or Investment Advice

This catalog is provided for general informational purposes only. It does not constitute medical, clinical, legal, or investment advice, and should not be relied upon as a substitute for independent regulatory, legal, or scientific counsel. Purchasers and research partners remain solely responsible for their own compliance with all applicable federal, state, and international law.

Regulatory Status Subject to Change

Cannabis and cannabinoid regulation is an evolving area of federal and state law, including pending DEA marijuana rescheduling proceedings. [Ref. 15][Ref. 16] Statements in this catalog reflect OHANA's understanding of applicable requirements as of the date of publication and are subject to change without notice as statutes, regulations, and guidance documents are amended.

Specifications Subject to Change

Service scope, lead times, minimum order quantities, GMP grades, and pricing referenced in this catalog are indicative and project dependent. Final terms are set forth in a written quotation, purchase order, or services agreement executed between OHANA and the purchaser or research partner.

Confidentiality

This catalog may contain proprietary and confidential information belonging to OHANA Bio Pharma, LLC. It is provided to qualified recipients for evaluation purposes only and may not be reproduced, distributed, or disclosed to any third party without OHANA's prior written consent.



References & Regulatory Sources

- [Ref. 1] National Institute on Drug Abuse (NIDA), NIDA Drug Supply Program, <https://nida.nih.gov/research/research-data-measures-resources/nida-drug-supply-program>
- [Ref. 2] World Health Organization, WHO guidelines on good agricultural and collection practices (GACP) for medicinal plants, <https://www.who.int/publications/i/item/9241546271>
- [Ref. 3] ICH Q7 — Good Manufacturing Practice Guide for Active Pharmaceutical Ingredients (European Medicines Agency), <https://www.ema.europa.eu/en/ich-q7-good-manufacturing-practice-active-pharmaceutical-ingredients-scientific-guideline>
- [Ref. 8] U.S. DEA Diversion Control Division, Controlled Substance Code Number list (Drug Codes 7350, 7360, 7370), https://www.deadiversion.usdoj.gov/schedules/orangebook/d_cs_drugcode.pdf
- [Ref. 9] ICH Q3C (R9) — Residual Solvents (European Medicines Agency) <https://www.ema.europa.eu/en/ich-q3c-r8-residual-solvents-scientific-guideline>
- [Ref. 10] ICH Q3D (R2) — Elemental Impurities (European Medicines Agency). <https://www.ema.europa.eu/en/ich-q3d-elemental-impurities-scientific-guideline>
- [Ref. 11] ICH Q1 — Guideline on Stability Testing of Drug Substances and Drug Products (European Medicines Agency), <https://www.ema.europa.eu/en/ich-q1-guideline-stability-testing-drug-substances-drug-products>
- [Ref. 12] 21 CFR Part 312 — Investigational New Drug Application. <https://www.law.cornell.edu/cfr/text/21/part-312>
- [Ref. 13] United Nations, Single Convention on Narcotic Drugs, 1961, as amended, https://treaties.un.org/pages/ViewDetails.aspx?src=TREATY&mtdsg_no=VI-15&chapter=6
- [Ref. 14] U.S. Department of Justice, Justice Department Places FDA-Approved Marijuana Products and Products Containing Marijuana Subject to a Qualifying State-Issued License in Schedule III, <https://www.justice.gov/opa/pr/justice-department-places-fda-approved-marijuana-products-and-products-containing-marijuana>
- [Ref. 15] U.S. DEA, Marijuana Rescheduling Regulatory Actions <https://www.dea.gov/marijuana-rescheduling-regulatory-actions>
- [Ref. 16] U.S. DEA, DEA Hearing on Proposed Marijuana Rescheduling Begins June 29 (press release) <https://www.dea.gov/press-releases/2026/06/25/dea-hearing-proposed-marijuana-rescheduling-begins-june-29>

REGULATORY STATUS UPDATE — HEMP REDEFINITION (TOTAL-THC STANDARD)

On November 12, 2025, the Continuing Appropriations, Agriculture, Legislative Branch, Military Construction and Veterans Affairs, and Extensions Act, 2026 (Pub. L. No. 119-37) was signed into law. Section 781 of Division B amends the federal definition of ‘hemp’ under 7 U.S.C. §1639o, replacing the prior delta-9-THC-only threshold with a total-THC standard (delta-9-THC + THCA + delta-8-THC ≤ 0.3% dry weight), imposes a 0.4 mg total-THC-per-container ceiling on finished products, and bars cannabinoids that are synthesized or not naturally produced by the plant. This redefinition takes effect November 12, 2026. Because OHANA’s Cannabis sativa L. input material and in-process extracts are sourced and processed as marijuana extract (>0.3% total THC) rather than compliant hemp, none of the isolates in this section — including CBD, CBG, CBDA, CBC, and CBDv, which have been marketed elsewhere as non-scheduled hemp derivatives — qualify for hemp-exempt status under the amended definition. All isolates are manufactured, scheduled, and shipped as DEA Schedule I Controlled Substances under Drug Codes 7350/7360/7370, regardless of the finished isolate’s own THC content [Ref. HEMP-2026].

REGULATORY STATUS UPDATE — MARIJUANA RESCHEDULING

On April 22–23, 2026, the U.S. Department of Justice and DEA issued a Final Order placing FDA-approved marijuana-derived drug products and state-licensed medical marijuana into Schedule III of the Controlled Substances Act [Ref. 14]. Broader reclassification of marijuana generally (Schedule I to Schedule III) remains under DEA administrative hearing proceedings, which commenced June 29, 2026 [Ref. 15][Ref. 16]. OHANA continues to operate under its DEA Schedule I bulk manufacturer registration (Drug Codes 7350/7360/7370) and will update product classifications to reflect final DEA action upon conclusion of this rulemaking.



Products of Interest & Reservation Form

To indicate which research and pharmaceutical products you anticipate purchasing over the next 12 months, please complete OHANA Bio Pharma's Products of Interest & Reservation Form. This fillable form covers every category in this catalog — pharmaceutical-grade cannabis flower, the Master Chemovar Library, extracts and concentrates, high-purity cannabinoid API isolates, purified terpenes and flavonoids, formulation and delivery platforms, and custom CDMO services — and feeds directly into OHANA's DEA Form 189 (IMQ) quota planning. Submitting this form is non-binding and does not by itself constitute a purchase order or Master Supply Agreement; a signed Bona Fide Supply Agreement and supporting documentation (researcher registration, CSOS certificate) will follow before any shipment.

This page is a static preview. To check your Products of Interest and submit the form, use the link or QR code below.

Complete the Products of Interest & Reservation Form

OPEN THE FILLABLE FORM →

Click to open and complete online — no Acrobat app required.
Or email your completed form to api.info@ohana-biopharma.com



Scan to open on your phone