

Our Cannabis & Hemp quality standards



CULTIVATION OF RAW MATERIALS

QUALITY CONTROL

REGULATORY CERTIFICATIONS

MANUFACTURED IN SWITZERLAND

LEADERS IN EXCELLENCE

*GMP certifications available under request

Thanks to their rich characterization and proprietary extraction method, our therapeutic solutions are a reference point for Cannabis products, **suitable for pharmacokinetic and pharmacodynamic studies**, valuable clinical trials, and the development of drugs, food supplements and high-quality cosmetic formulations.

As a **quality standard**, it is important to assure **the absence of degradation products, microbial contaminants, heavy metals, growth enhancers** (common in illegal products), and pest control chemicals.

We offer pure, controlled, safe, titrated, standardized and tailor-made Cannabis extracts with a reproducible profile of efficacy to improve treatment quality as well as patient health.



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Cannabis & Hemp therapeutic solutions



with



Cannabis & Hemp

Cannabis and Hemp are herbaceous, annual, taprooted plants. They are dioecious (male and female flowers occur on separate plants), rarely monoecious, and typically have an erect stem (up to 6m high) and leaves.

Our Cannabis & Hemp products come from the processing of dried inflorescences and sub-tending leaves of pistillate (female) Cannabis plants.

There are more than 750 metabolites identified in Cannabis. The most important compounds are **cannabinoids** (phytocannabinoids), which have therapeutic effect, followed by terpenoids, able to modulate cannabinoid response (entourage effect). The main and most studied cannabinoids are Δ^9 -THC (Tetrahydrocannabinol) and CBD (Cannabidiol).

Main cannabinoids

CBD

(Cannabidiol)

Is one of the major **non-psychoactive** cannabinoid. It has many biological effects, beyond those linked to the endocannabinoid system and it does not exert any significant intrinsic activity on the cannabinoid receptors.

CBD does not cause psychotomimetic and anxiogenic effects or create dependence after repeated use. It has a better safety profile than other cannabinoids, such as THC. For instance, high doses of CBD are well tolerated in animals and humans.

THC

(Δ^9 -Tetrahydrocannabinol)

Is a **psychoactive** compound, extracted from the female inflorescences of Cannabis. THC targets and binds to cannabinoid receptors (CBRs), located primarily in the central nervous system (but also found in gut and bones) where it exerts its main biological activities.

THC can also act on other receptor systems. Both psychological and physiological dependence have been noticed in healthy individuals receiving tetrahydrocannabinol, but **addiction is uncommon** and has been seen only after prolonged high-dose administration.

CBG

(Cannabigerol)

Is a safe **non-psychoactive** Cannabis-derived cannabinoid, a precursor of biosynthetic cannabinoid pathways, which has great potential for interesting new therapeutic uses.

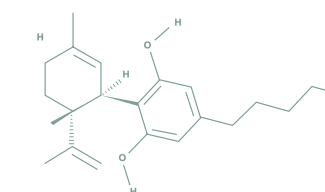
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(-)-trans-Cannabidiol

CAS number
13956-29-1

IUPAC name
2-[[[(1R,6R)-3-Methyl-6-(1-methylethenyl)-2-cyclohexen-1-yl]-5-pentyl-1,3-benzenediol

Chemical formula
C₂₁H₃₀O₂

Molecular weight
314.47 g/mol



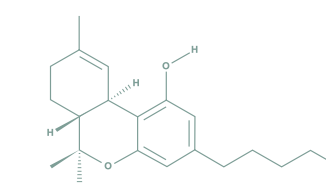
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(-)-trans- Δ^9 -Form.

CAS number
1972-08-3

IUPAC name
(6aR,10aR)-6a,7,8,10a-Tetrahydro-6,6,9-trimethyl-3-pentyl-6H-dibenzo[b,d]pyran-1-ol

Chemical formula
C₂₁H₃₀O₂

Molecular weight
314.47 g/mol



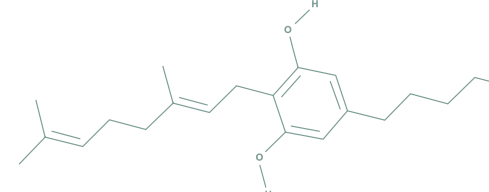
Name
Cannabigerol

CAS number
25654-31-3

IUPAC name
2-[(2E)-3,7-dimethylocta-2,6-dienyl]-5-pentylbenzene-1,3-diol

Chemical formula
C₂₁H₃₂O₂

Molecular weight
316.48 g/mol



About cultivation

Knowledge & selection

In-depth knowledge of Cannabis & Hemp cultivation methods and an accurate selection of plants allow us to obtain high-performance strains with high cannabinoid yields, each offering different suitability for THC or CBD-rich products.

Our plants are:

- Cultivated in greenhouses or in field
- GAP certified
- Organic certified
- GMO free
- From strains present in the European Register
- Cultivated in the European Union
- From the most suitable female cannabis & Hemp plants
- Monitored during all procedures from planting to harvesting, from drying to storing, and transportation
- Harvested at the most suitable time, to guarantee the highest content in cannabinoids



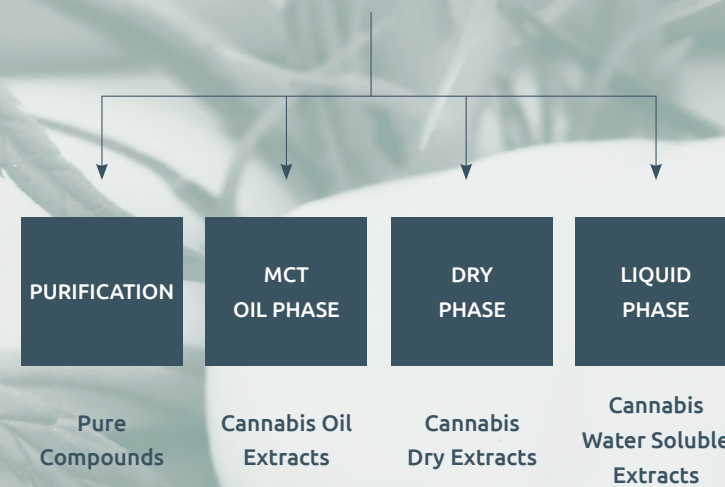
About production

Swiss excellence

CANNABIS & HEMP INFLORESCENCES

1st solvent phase

CONCENTRATED SOFT EXTRACT



Product list

The power of cannabinoids in our tailored products

Obtained exclusively from inflorescences of female plants, with specific and reproducible cannabinoid profile. They are processed with our validated quality control and extraction methods. Our extracts have the highest quality possible, in compliance with GMP.

Our Cannabis & Hemp products are:

- Standardized in THC and CBD
- Reproducible bioavailability
- Available in the most suitable form:
 - Oil
 - Dry extract
 - Water soluble extract
 - Pure compound
- Produced under GMP, certified by Swissmedic Agency
- GMP certificates have been released according to each process and to each manufactured product



GMP certificates available under request

Available

CBD-based products

Non-psychoactive high-quality Hemp derivatives

CBD-based products derive from Cannabis Sativa total extraction, titrated or purified in CBD (cannabidiol), obtained through a proprietary solvent process performed to maximize the concentration of plant-derived CBD.

CBD-rich Extracts

Oil extracts:	1% - 5%	
Dry extract:	8%	
Water soluble extract:	5% - 10%	

Pure CBD

Pure CBD **	NLT 98%	
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CBD-rich Oils

Oil with Pure CBD **	5%	
Oil with Pure CBD **	up to 65%	

Pure CBG

Non-psychoactive high-quality Hemp derivative

Pure CBG **	NLT 98%	
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Under development

THC-based products (psychoactive)

The future of cannabinoid-based therapy

THC-based products derive from the Cannabis Indica total extraction, titrated or purified in THC (tetrahydrocannabinol), obtained through a proprietary solvent extraction process, performed to maximize the concentration of plant-derived THC content.

THC-rich Extracts

Oil extracts	
Dry extract	

Pure THC

Pure THC	
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* DMF Available end 2018

** Pharma Grade Under Development

*** DAC/NRF Monograph

Key

- Pharma
- Food Supplement

Cannabis Sativa is rich in CBD

Cannabis Indica is rich in THC

Therapeutic overview

Our Cannabis & Hemp Extracts are suitable for

- Pharma
 - Food Supplements
 - Medical Devices
 - Cosmetics
- (depending on local and national laws and regulations)

Clinical applications for Cannabis extracts

There are a large number of ongoing clinical and preclinical studies focusing on cannabis and cannabinoids. The most relevant funding show that Cannabis and its derivatives has a multi-levels role in the organism, indicating the potential extent of a complex therapeutic scenario and representing an exciting target for disease management and health promotion.

Therapeutic uses *

Skin

Psoriasis, Allergic contact dermatitis, Melanoma, Skin inflammation

Inflammation

Central nervous system & Psyche
Neuroprotection for Alzheimer's disease, Quitting smoking, Epilepsy, Anxiety, Depression, Sleep problems, Psychosis, Pediatric resistant spasticity, Opioid detoxification, Obsessive compulsive disorder, Pain, ADHD, Migraine

Chest/Abdomen

Functional chest pain, Crohn's disease

Autoimmune diseases

Rheumatism, Rheumatoid arthritis, Fibromyalgia

Lungs

Asthma

Petcare

Anxiety

Nausea

Pain

Inflammation

Cancer

Nausea, Vomiting, Debilitation, Weight loss, Appetite stimulation

Anorexia

Weight loss, Appetite stimulation

AIDS

Nausea, Vomiting, Debilitation, Weight loss, Appetite stimulation

Glaucoma

Nervous system

Chronic pain, Muscle spasms, Gilles de la Tourette syndrome



* Not registered before regulatory authorities