

CBD F/6: Response™

Low Energy Support*

30ml Full Spectrum CBD

Product Information

Response genetically aligned CBD formulation oil is administered orally and sublingually (under the tongue). Formulated to genetically align with individual DNA profiles, **Response** consists of a proprietary formulation of cannabidiol (CBD) derived from hemp, terpenes and essential oils in specific ratios to support healthy vitality and an increase of overall energy.*

PRODUCT DESCRIPTION

Primary Ingredients

Hemp-derived cannabidiol (CBD)

Cannabidiol or CBD, is one of the many cannabinoids, or chemical compounds, found in marijuana and hemp. Unlike THC, CBD is non-intoxicating but still psychoactive. In other words, CBD interacts with your endocannabinoid receptors (psychoactive), and proteins and cells in the brain, but will not cause impairment or “get you stoned” (non-intoxicating).

CBD has been shown in a number of phase I and phase II research, and phase III clinical trials, to either directly or indirectly affect symptoms of restless sleep and sleeplessness[1], anxiousness and stress[2], depressed mood[3], PTSD[4], Multiple Sclerosis[5, 6], epilepsy[7], psychopathy[8], pain[9], inflammation[10], ADHD[11], cognitive impairment and memory function[12,13], and nausea[14].

According to a 2013 study published in the British Journal of Clinical Pharmacology, CBD benefits including acting in some experimental models as an anti-inflammatory, anticonvulsant, antioxidant, antiemetic, anxiolytic and antipsychotic agent, and is therefore a potential medicine for the treatment of neuroinflammation, epilepsy, oxidative injury, vomiting and nausea, anxiety and schizophrenia.[15]

CBD can also boost levels of naturally occurring endocannabinoids in your brain, such as anandamide. Over time, anandamide can stimulate neurogenesis in certain parts of your brain. This has been linked to improvements in anxiety and stress resilience[16].

CBD has been shown to activate the 5-HT1A serotonin receptor[17], which may help with anxiety, addiction, appetite, sleep, nausea, vomiting. It also binds to TRPV1 receptors[18], which has been shown to moderate pain and inflammation. CBD activates peroxisome proliferator activated receptors (PPARs), which has been shown to produce an anti-cancer effect and help with Alzheimer’s[19].

In addition cannabinoids and terpenes have been shown to balance endocannabinoid deficiencies[20] which may help promote a homeostatic condition necessary to support overall good health and wellness[21].

INDICATIONS FOR USE

Response is intended as a dietary supplement to support feelings of vitality and wellbeing, and increase overall energy.*

Response formulation uses a proprietary blend of full spectrum cannabidiol (CBD), terpenes and essential oils. All ingredients are derived from natural, botanical sources and processed to ensure a 95% potency. This unique process allows for formulation consistency, and ensures that each tincture provides consistent health outcomes associated with the formulation.*

	Indications	Mechanism of Action	Cautions
Cannabidiol (CBD)	<p>Research suggests that the endocannabinoid system plays a role in maintaining certain body functions, such as mood, appetite, sleep, and regulating circadian rhythms [9,10, 22,23].</p> <p>Several pieces of evidence have shown that CBD acts as a positive compound in different treatments to manage several health conditions, such as psychiatric and neurodegenerative disorders [24,25,26,27]. Clinical depression is a serious mood disorder characterized by persistent sadness and loss of interest. CBD has been shown to exert a number of physiological, biochemical, and psychological effects with the potential to benefit increased energy.</p> <p>The neural network of the endocannabinoid system works similarly to the way that serotonin, dopamine, and other systems do, and, according to some research, cannabinoids have an effect on serotonin levels. [28,29] Authors of a 2016 study wrote that “CBD could represent a novel fast antidepressant drug, via enhancing both serotonergic and glutamate cortical signaling through a 5-HT1A receptor-dependent mechanism”[30].</p> <p>CBD might especially be effective for depression related to chronic stress, which has been shown to cause a decrease in endocannabinoid levels[31,32].</p>	<p>Within the endocannabinoid system is a network of cannabinoid receptors in the brain and central nervous system. The two primary receptors identified are CB1 and CB2. Cannabinoids attach to these cells, which can produce a variety of biological effects[9,16,21]</p> <p>Cannabinoids act on multiple systems and it is understood that cannabinoids interact with many neurotransmitter and neuromodulator systems. It is important to note that cannabinoids have the ability to interact with all kinds of cellular pathways implicated in a range of diseases. Cannabinoids act as ligands (a small molecule able to dock onto the binding site of a protein) conferring their ability to modulate a receptor’s behavior and consequently their downstream biological pathways. Although the cannabinoids may have similar structures, they display a remarkably wide array of actions.</p> <p>Some research indicates that CBD may interact with specific receptors, potentially affecting the sleep/wake cycle [1,33].</p>	<p>Response is contraindicated for anyone:</p> <ul style="list-style-type: none"> ● With a known or suspected allergy to hemp, other cannabinoids, Medium Chain Triglyceride (MCT) carrier oil and coconut. ● With significant hepatic or renal impairment ● With serious cardiovascular disease, such as ischaemic heart disease, arrhythmias, poorly controlled hypertension or severe heart failure ● With a history of schizophrenia or any other psychotic disorder ● Under 18 years of age ● Who is pregnant or nursing

Interactions:

Food may affect the absorption and blood levels of cannabidiol. To avoid significant fluctuations in blood levels, cannabidiol should be taken about the same time each day consistently, either with or without food. Consumption of grapefruit and grapefruit juice should be limited, as it may increase the blood levels of cannabidiol. Patients who consume grapefruit or grapefruit juice may require a lower dosage of the medication based on blood levels. Talk to your doctor if you have any questions or concerns. *It is important to tell your doctor about all other medications you use, including vitamins and herbs. Do not stop using any medications without first talking to your doctor.*

For more information on specific drug to drug interaction visit www.mydna.live for a free drug to drug interaction tool.

Terpenes:

The hemp plant includes a wide variety of chemicals and compounds. About 140 of these belong to a large class of aromatic organic hydrocarbons known as terpenes. Terpenes may play a role in boosting the therapeutic effect of cannabidiol. Terpenes are believed to act on receptors and neurotransmitters[34], which means they may play a role in providing therapeutic value in achieving health sleep patterns. Some terpenes appear to act as serotonin uptake inhibitors (similar to antidepressants like Prozac) and have been shown to enhance norepinephrine activity (similar to tricyclic antidepressants like Elavil)[35]. As well, some terpenes have been shown to increase dopamine activity[34], and seem to augment GABA [36] (the “downer” neurotransmitter that counters glutamate, the “upper”) which is important to achieve healthy sleep. More specific research is needed for improved accuracy in describing and predicting how terpenes in hemp can be used for specific health concerns.

The FDA, as well as other international health and safety agencies, have recognized terpenes as safe.

Response formulation uses a proprietary blend of terpenes derived from natural, botanical sources and refined to ensure a 95% potency. This process allows for formulation consistency to ensure that each tincture provides the health outcomes you expect, every time.*

	Indications	Mechanism of Action	Cautions
Linalool	Linalool is a non-cyclic monoterpenoid and may promote calming, relaxing effects [37]. Linalool inhibited acetylcholine release and alters ion channel function at the neuromuscular junction [37, 38]. Studies also suggest that linalool may act to boost the immune system as it directly activates immune cells through specific receptors and/or pathways[39]. It has been shown to significantly reduce lung inflammation[40]. Linalool may be useful in the treatment of Alzheimer’s disease by reversing the histopathological (the microscopic examination of biological tissues to observe the appearance of diseased cells and tissues in very fine detail) hallmarks of Alzheimer’s Disease and could restore cognitive and emotional functions via an anti-inflammatory effect[41].	Linalool may work in several ways: First, it is an antagonist of the NMDA receptor[42,43]. This means that it can reduce activation of this receptor by glutamate, the main excitatory neurotransmitter of the brain. Other NMDA antagonists also have strong sedative properties. Second, it enhances GABA activity[44], although it does this in a different way than myrcene since it does not bind the same receptor site.	Known allergy to the compound.
Beta Caryophyllene (BCP)	Recently identified as a natural selective agonist of the peripherally expressed cannabinoid receptor 2 (CB2)[45]. A number of studies have shown that CB2 is critically involved in the modulation of inflammatory and neuropathic pain[45,46] responses. Studies have shown an analgesic [45, 46]effect when orally administered to reduce inflammatory (late phase) pain responses in the formalin test in a CB2 receptor-dependent manner, while it had no effect on acute (early phase) responses. In a neuropathic pain model the chronic oral administration of BCP attenuated thermal hyperalgesia and	BCP selectively binds to the CB2 receptor and that it is a functional CB2 agonist[47]. Results identify (E)-BCP as a functional nonpsychoactive CB2 receptor ligand in foodstuff and as a macrocyclic antiinflammatory cannabinoid in Cannabishttps://www.sciencedirect.com/science/article/pii/B9780128007563001095.	Known allergy to the compound.

	mechanical allodynia, and reduced spinal neuroinflammation. Importantly, no signs of tolerance to the anti-hyperalgesic effects of BCP after prolonged treatment were found. BCP may be highly effective in the treatment of long lasting, debilitating pain states [45,46].		
Pinene	A wide range of pharmacological activities have been reported, including antibiotic resistance modulation, anticoagulant, antitumor, antimicrobial, antimalarial, antioxidant, anti-inflammatory, anti- <i>Leishmania</i> , and analgesic effects[48]. β -Pinene has shown antiproliferative and cytotoxic effects [49,50].	Pinene disrupts multiple metabolic pathways, and particularly those involved in heat-shock responses[51].	The safety profile of pinenes is considered outstanding, allowing their use in various chemicals, and they are generally recognized as safe (GRAS)[52].

Essential Oils

Response genetically aligned formulation uses only the highest quality essential oils, blended from naturally derived botanical sources.

	Indications	Mechanism of Action	Cautions
Geranium Oil	Geranium essential oil's anti-inflammatory properties make it beneficial for a number of inflammatory conditions, including those affecting skin[53]. According to researchers, geranium essential oil might have benefits for people with neurodegenerative diseases that include neuroinflammation[54]. Researchers theorized that geranium essential oil might be of value for women experiencing reduced estrogen and health-related symptoms caused by menopause and perimenopause[55].	Identified as a TRPV1 agonists[56]. Due to their antimicrobial properties, they are used in the treatment of respiratory, digestive system, and also in skin and oral infections[57].	When used correctly, geranium oil is considered safe for most people to use[57].
Peppermint Oil	Peppermint possesses a broad range of biological activities including digestive, choleric, carminative, antiseptic, antibacterial, antiviral, antispasmodic, antioxidant, anti-inflammatory, myorelaxant, expectorant, analgesic, tonic, and vasodilator[58,59]. Effectiveness of peppermint aroma on perceived physical workload, temporal workload, effort, and anxiety was also studied[60]. Other researchers examined the effects of peppermint aroma administered through the nose or orally on the augmenting cognitive performance[61].	The main pharmacodynamic effect of peppermint essential oil is related to its dose-dependent antispasmodic effect on the gastrointestinal tract smooth muscles due to the interference of menthol with the movement of calcium across the cell membrane[64].	Should not be used if there is a known sensitivity to peppermint oil, or for anyone suffering from hiatal hernia, severe gastroesophageal reflux, gallbladder disorders; use with caution in pregnant and lactating women[65].

<p>Guava Oil</p>	<p>Preparations of guava (<i>Psidium guajava</i> L.) leaves have traditionally been used to manage several diseases and physiological issues, including diabetes mellitus, cardiovascular diseases, cancer, and parasitic infections[62,63].</p>	<p>Phenolic compounds in guava leaves have been credited with regulating blood-glucose levels[62,63]</p>	<p>Known allergy to Guava. Studies suggest that no interaction with anti-diabetic and anti-hyperlipidemia drugs are likely, and guava oil has a lower potential for drug interactions based on either inhibition or induction of cytochrome P450 isoforms[63].</p>
<p>Lavender Oil</p>	<p>There is growing evidence suggesting that lavender oil may be an effective medication in treatment of several neurological disorders, including depression, anxiety, insomnia and Alzheimer's disease. Several animal and human investigations suggest anxiolytic, mood stabilizer, sedative, analgesic, and anticonvulsant and neuroprotective properties for lavender[66].</p>	<p>Several investigations were performed to clarify the mechanism of action of lavender in neuronal tissues. Lavender inhibited lipopolysaccharide-induced inflammatory reaction in human monocyte THP-1 cells effect, which might be associated with the expression of HSP70 [67]. Antioxidant and relatively weak cholinergic inhibition was reported for lavender [68,69] and linalool[70,71,72].</p> <p>These findings indicate that several targets relevant to treatment of Alzheimer's disease. The neuroprotective effect of lavender oil against cerebral ischemia/reperfusion injury is suggested to be attributed to its antioxidant effects[72].</p> <p>Lavender oil may also modulate GABAergic neurotransmission, especially on GABAA receptors, and enhance the inhibitory tone of the nervous system[73,74,75]. The cholinergic system (a grouping of organized nerve cells in the brain) is suggested to play a role in lavender analgesic, antianxiety, anti- depression, and anticonvulsant effects[67,76,77].</p>	<p>Known allergy to Lavender.</p>

PHYSICAL DESCRIPTION

Response is an amber-coloured oil preserved in a dark violet Miron glass tincture bottle.

Miron glass and product preservation.

Miron glass^[78] is vastly different from the typical glass or plastic CBD tincture bottles available. The dark violet glass protects and preserves, allowing only ultraviolet, violet and infrared spectrum to penetrate to the liquid within. It works as a natural filter blocking the complete spectral range of visible light, with the exception of violet light. Other glass types allow all or most of the visible light spectrum to pass through. This makes them less capable of protecting the sensitive properties of the compounds, like micronutrients, cannabinoids, terpenes and essential oils.

Miron glass relies on a little-known theory called biophotonics. Biophotons are thought to be essential to intercellular communication and the promotion and balance of energy ^[79]. This unique dark violet glass has been shown to have outstanding properties of preservation over extended periods of time^[80]. Water, for example, has been kept fresh in violet Miron glass for over three years without any artificial preservation techniques.

Miron glass offers unique protection from other light frequencies and is believed to enhance the durability and potency of products like CBD oil, without the addition of any preservatives.

DOSAGE AND ADMINISTRATION

SUPPLEMENT FACTS		
Serving size: 0.7ml (~12 drops)		Serving per container: 42**
	Amount per serving:	%DV
Calories	4	
Total Fat	Less than 1g	<1%†
Hemp Extract (Aerial parts) (88% CBD Distillate) (<0.3% THC)	23.81mg	‡
†Percent Daily Values based on a 2000 calorie diet ‡Daily Value Not Established		
Other ingredients: Medium Chain Triglyceride (MCT) carrier oil (CONTAINS COCONUT), Geranium Oil, Mint Oil, Guava Oil and Lavender Oil.		
**DOSAGE PER DROP IS 1.96MG TO 2.04MG AND VARIES BASED ON DROP SIZE.		

Suggested use:

Shake well. Take 0.7ml under the tongue and hold for 1 minute. Swallow. Use 2 times per day or as directed by a physician. Individual results may vary.

Warning:

Intended for adult use only. Consult a doctor before use if you are pregnant, nursing or taking any medications. Keep out the reach of children. Store in a cool, dry place.

*These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.
 US Patent PCT/US2018/058199

Manufactured in accordance with GMP and ISO 9001 quality assurance standards for:
Efficacy Wellness, Thousand Oaks, CA, USA

For a complete Certificate of Analysis (COA), more information and links to references for this formulation visit www.efficawellness.com/response