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# HEALTH SUPPLEMENTS

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## Product Catalog



# KOSMOCYDIN

## Description:

A bioflavonoid natural antioxidant, containing pro-anthocyanidin.

This UNIQUE product is extracted from a specific indigenous Acacia plant and complements antioxidant vitamins A, E and C in the body, improving their efficacy by up to fifty percent. (Grape seed extract normally only claims an effect on Vitamin E and C). KOSMOCYDIN also enhances the effect of Selenium, a mineral playing an important supporting role as an antioxidant.

When measured in terms of ORAC values (a measure to determine the free radical scavenging ability or 'cleansing' ability of a product) KOSMOCYDIN tests at values in excess of 600 000  $\mu$ mole Trolox Equivalents per 100g. (The equivalent values for Grape Seed and Rooibos Tea extracts are approximately 350 000 and 400 000  $\mu$ mole TE/100g respectively.)

Free radicals are formed in the body as a result of normal metabolic processes. If they are not adequately removed, they may cause damage to cells. This eventually leads to cell structure damage as well as damage to organs. This can further result in diseases such as cancer and other degenerative disorders. As the scavenging of free radical is such an important process in the body, vitamins A, C and E, Selenium and natural antioxidants are involved. These vitamins and Selenium also have other functions and a natural antioxidant such as KOSMOCYDIN with a high affinity for free radicals releases more of these vitamins to fulfil their other functions to a greater degree.

KOSMOCYDIN has a positive effect on a number of other systems in the body. It improves blood circulation by restoring the elasticity of the arterial and vein walls. (KOSMOCYDIN has a collagen stabilizing effect.) A resultant lowering of blood pressure has been observed as well as an improvement in high cholesterol conditions and diabetes.

The resultant improvement of vitamin A efficacy as well as the direct effect of KOSMOCYDIN can result in better protection of mucous membranes, the body's first line of defense against harmful substances and microorganisms. An improvement of sight as well as an increase in the tempo of hair and nail growth has also been observed.

Vitamin E and C as well as Selenium play an important role in supporting the immune system, protecting against viral infections such as colds and flu.

Vitamin C stabilizes collagen by increasing collagen synthesis and KOSMOCYDIN enhances both the availability and effect that vitamin C has on the dermis and epidermis, improving the healing of both physical skin damage and photo damage. It also delays the effect of aging on the skin.

The active ingredients of KOSMOCYDIN are monomeric- and polymeric flavonoids as well as anthocyanidins.

In terms of free radical scavenging BIODERMA is up to 50% more efficient than the other natural antioxidants available on the market.

*IT WAS SCIENTIFICALLY PROVEN TO ACT, BOTH IN-VITRO AND IN-VIVO, AS AN ANTIOXIDANT AS WELL AS AN ANTIRADICAL AGENT.*



#### Chemo-physical properties of Kosmocydin

Soluble in water

Partly soluble in fat

Concentration of 0.5% in water yields pH 6.3

Stable against UV radiation and thermal exposure

Typically contains:

Total flavonoids < 55% w/w

Monomeric Flavonoids 7.8% w/w

*(Catechin and Gallo-catechin)*

Pro-anthocyanidins (39.8 % w/w) yield

Anthocyanidins

*(Delphinidin, Fisetidin and Robenitidin)*

#### Digestion and metabolism:

KOSMOCYDIN is absorbed in the small intestine.

Peak concentrations of Kosmocydin are found in connective tissue (cartilages, bone, blood vessels and skin) after 12 to 18 hours.

Between 40% and 50% of peak concentrations can still be found 108 hours after oral ingestion.

#### Physiological and therapeutic properties of Kosmocydin:

As Antioxidant:

The polyphenol structure of the flavonoids with their bounded hydroxyl groups is responsible for the antioxidant effect. This is achieved by the flavonoid phenolic structure that scavenges free radicals (ORAC value avg. 700 000 µmole Trolox Equivalents per 100g) and chelates heavy metals.

Vitamin sparing effect:

Vitamin C activity is enhanced by the synergism between flavonoids and vitamin C.

KOSMOCYDIN has a vitamin sparing effect by protecting vitamins E and A against depletion through its radical scavenging action and acting in concert with both these vitamins in certain areas in the body.

Anti-allergic and anti-inflammatory effect:

The free radical scavenging effect plays a role in preventing tissue damage. This also results in an anti-inflammatory action.

Bioflavonoids are an effective inhibitor of histamine secreted by mast cells during allergic reactions as well as assisting vitamin C to stabilize the mast cells.

Additional uses:

As antioxidant and free radical scavenger for humans

*For the reduction of high blood pressure*

As active ingredient in skincare products (cosmetic, anti-aging, wound healing, general hypo-allergenic treatment for sensitive skins, also for babies and when shaving)

For improved hair and nail growth

*As the flavonoids have evolved as part of the protection system of plants, they also have an anti-microbial and anti-viral effect and can be used as a supplemental treatment in viral and bacterial infections.*

# KOSMOFLOROID

Description:

Kosmofloroid is an antioxidant and Para probiotic combination. With the occurrence of daily stressors providing many humans with chronic stress, the hippocampus, amygdala, and cerebellar granule cells are the cells that are more prone to be affected to oxidative stress.

After the amygdala sends a distress signal, the hypothalamus activates the sympathetic nervous system by sending signals through the autonomic nerves to the adrenal glands. These glands respond by pumping the hormone epinephrine (also known as adrenaline) into the bloodstream. As epinephrine circulates through the body, it brings on several physiological changes. One of these changes includes the release of cortisol, which in turn is responsible for the release of simple sugars such as glucose and fats from temporary storage sites in the body. A storage site for some simple sugars, which is also the energy source for many beneficial organisms, can be found on the lining of the small intestine. Some of the functions of these organisms are to assist in digestion and the metabolism of different nutrients by secreting metabolites, cell wall fragments, enzymes, and neurochemicals. Should the energy source for these organisms be absorbed and depleted by the body, it may cause them to die or become dormant. When normal probiotics are administered, the same fate awaits these organisms. Kosmofloroid contains inactivated probiotic strains and is known as a Para probiotic, containing these important metabolites, cell wall fragments, enzymes, and neurochemicals.



These continual chronic stress situations result in free radicals being generated by means of different metabolic processes. In normal situations the body produces its own antioxidants such as alpha lipoic acid and glutathione to scavenge free radicals, but with increased acute and chronic stress, it may just not be enough. The bioflavonoid, Kosmocycin (see Kosmocycin information), is added to Kosmofloroid to assist in the scavenging of these free radicals, which causes damage to cell walls and impair mitochondrial structure and function.

Kosmofloroid has not been tested in pregnant or breastfeeding women. Each 330mg capsule contains:

Kosmocycin (Antioxidant)	150mg
<i>Proanthocyanidin</i>	<i>60mg</i>
<i>Bioflavonoid</i>	<i>70mg</i>
Alfalfa with inactivate Biorem-culture probiotic	180mg

# CALCIUM & MAGNESIUM

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## Description:

Calcium and magnesium are two essential minerals that play crucial roles in maintaining optimal health and well-being in humans. While both minerals are naturally present in a variety of foods, many individuals may not consume sufficient amounts through their diet alone. As a result, calcium and magnesium supplementation have gained popularity as a means to bridge the nutrient gap.

## Bone Health:

Calcium and magnesium are essential for maintaining strong and healthy bones throughout life. Calcium forms the structural component of bones, while magnesium aids in calcium absorption and bone metabolism. Adequate calcium intake, in combination with magnesium, is vital during childhood and adolescence when bone mass accrual is at its peak. Furthermore, calcium and magnesium supplementation has been shown to reduce the risk of osteoporosis and fractures in postmenopausal women and older adults. Regular supplementation can help maintain bone density, enhance bone strength, and slow down age-related bone loss.

## Cardiovascular Function

Calcium and magnesium also play crucial roles in supporting cardiovascular health. Calcium is involved in muscle contraction, including the heart muscles, and contributes to maintaining a regular heartbeat. Magnesium, on the other hand, helps regulate blood pressure, relaxes blood vessels, and assists in normalizing heart rhythm. Studies have demonstrated that adequate calcium and magnesium intake may lower the risk of developing hypertension and reduce the incidence of cardiovascular diseases, such as heart attacks and strokes. However, it is important to note that excessive calcium supplementation without adequate magnesium intake may increase the risk of arterial calcification, emphasizing the importance of maintaining a balanced ratio between these minerals.

## Muscle Function

Both calcium and magnesium are essential for proper muscle function. Calcium is involved in muscle contraction, while magnesium acts as a natural muscle relaxant. Adequate levels of these minerals support optimal muscle performance, preventing muscle cramps, spasms, and weakness. Calcium and magnesium supplementation have been shown to be beneficial for individuals experiencing muscle-related issues, such as restless leg syndrome and nocturnal leg cramps. Additionally, athletes and individuals engaging in regular exercise may benefit from supplementation to support muscle recovery, reduce muscle soreness, and improve exercise performance.

## Overall Well-being

In addition to their specific roles in bone health, cardiovascular function, and muscle function, calcium and magnesium also contribute to overall well-being. Calcium is involved in nerve transmission, hormone secretion, and enzymatic reactions, while magnesium supports hundreds of biochemical processes in the body, including energy production and DNA synthesis. Calcium and magnesium supplementation have been associated with improved mood, reduced symptoms of anxiety and depression, enhanced sleep quality, and relief from premenstrual syndrome (PMS) symptoms. Furthermore, these minerals have demonstrated antioxidant and anti-inflammatory properties, potentially contributing to the prevention of chronic diseases, such as type 2 diabetes, certain cancers, and neurodegenerative disorders.

# KOSMUNE

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## Description:

Kosmune is a composite product consisting of a combination of different vitamins, minerals and amino acids. Kosmune is composed of Colostrum, Kosmocycin, Beta Carotene, Vitamin C, Iron, Phytosterols, Vitamin B6, Vitamin B12, Folic Acid, Niacin, L-Cysteine, Selenium and Alcohol. Most of these ingredients have documented immune support and viral resistance properties.

Colostrum secreted immediately post-partum in lactating mammals contains all the essential amino acids, the building blocks of proteins in the body. It also contains high concentrations of immunoglobulins. These immunoglobulins act as the first line of defense against digestive pathogens in the digestive tract. These pathogens include opportunistic pathogenic bacteria and various viruses. It has also been reported that colostrum protects Vitamin A in the digestive track prior to its absorption through the chylomicron/lymphatic route, in the first part of the small intestine. It further contains growth factors that improve the growth and regeneration of the gut wall.

Kosmocycin (a polyphenol) is a natural Bioflavonoid Antioxidant and Pro- anthocyanidin. Scientific trials have confirmed that it increases the effectiveness (availability) of Vitamin A, C and E to act as antioxidants. (See further info in Kosmocycin information)

Beta Carotene, a Vitamin A precursor, is enzymatically divided into two vitamin A molecules. Vitamin A (Retinol) is important during the production of white blood cells as it is metabolized to retinaldehyde. Retinaldehyde is converted by a metabolic process to retinoic acid which is essential to produce white blood cells (Leukocytes) in the body. White blood cells actively protect the body against viral or bacterial invaders. In combination with Kosmocycin, the effectiveness is increased up to 50%.

Vitamin C in Kosmune is included as Calcium Ascorbate, a calcium salt of Ascorbic acid. Calcium Ascorbate is composed of 9 parts Ascorbate and 1 part Calcium. Vitamin C is a natural antioxidant and antihistamine and are found in high concentrations in immune cells. The effectiveness of Vitamin C is increased by up to 90%, when consumed in combination with Kosmocycin.

Iron is included in Kosmune as it is a major component of hemoglobin, causing the red color of the molecule. As a component of blood, hemoglobin is the most important transporter of both oxygen and also transports some of the carbon dioxide produced during metabolic processes in the cell. Both oxygen and carbon dioxide bind reversibly to hemoglobin forming oxyhemoglobin and carbaminohemoglobin respectively. In the tissue the oxygen dissociates from the oxyhemoglobin providing it with oxygen. In the lungs carbon dioxide dissociates from the carbaminohemoglobin and is expelled by the lungs. Hemoglobin accounts for about 35% of the total solid composition of blood and the molecule cannot



be synthesized without iron. If insufficient iron is available in the body a person can become anemic. Anemia may cause the body to be more susceptible to viral infections and some viral infections can further cause mild idiopathic hemolysis and marrow inhibition.

Phytosterols is acknowledged by the Food and Drug Administration, USA (FDA) and the European Foods Safety Authority (EFSA) as an agent that lowers Blood cholesterol. A secondary effect of cholesterol is that it plays a critical role in maintaining the membrane structure of viruses that is essential for sustaining viral stability and infectivity especially for RNA enveloped viruses. By including these plant sterols in Kosmune an improved protection against and inhibition of viruses have been observed.

Vitamin B6 (pyridoxine) is involved in the metabolism of Amino Acids, Lipids and Glucose. It also plays a role during the synthesis and functioning of hemoglobin. In the nervous system it plays an important role in the synthesis of neurotransmitters. A shortage of Vitamin B6 can cause neurological and dermatological problems. Vitamin B6 improves the immune response, causing increased antibody production. It enhances communicative interactions between cytokines and chemokines preventing a “cytokine storm” that leads to the inflammation of lung capillary endothelial cells, neutrophil infiltration, and increased oxidative stress. Its deficiency may lead to suppressed immunity predisposing patients to infections.

Vitamin B9 (Folic Acid) is necessary for the synthesis, repair and methylation of DNA in the body. It plays a role in cell division and growth. Folic Acid plays such an important role in the nervous system that a deficiency may lead to neurological problems. Problems such as amnesia, mental confusion and headaches can be symptoms of Folic Acid deficiency. DNA synthesis and repairing are impaired by Folic Acid deficiency. Evidence further suggests that folate deficiency may enable some viral DNA to integrate into host cell DNA more easily, thus increasing susceptibility to infection.

Vitamin B12 (cobalamin) plays a very important role in the brain and nerve functions and during blood formation. Small amounts are produced by bacteria in the digestive track but for adequate levels it must be consumed. Food like red meat is a good source of vitamin B12. It has been demonstrated that vitamin B12 binds to a significant extent with Furin, and it has been suggested that vitamin B12 may be an important factor that reduces virulence of viruses by blocking Furin which is responsible for entry of a number of viruses in the host cell. A wide variety of viruses exploit Furin and other proprotein convertases (PCs) of the constitutive protein secretion pathway to regulate their cell entry mechanism and infectivity.

Vitamin B3 (Niacin) can be synthesized in the body, using Tryptophan, an essential amino acid as a building block. A deficiency of this vitamin has been observed in people whose staple food is maize/corn meal and where nixtamalization is not used during processing. Such a deficiency can lead up to Pellagra, a deficiency disease, characterized by a combination of symptoms such as dermatitis, diarrhea and dementia. A weakened state may predispose humans to other health problems, such as viral illness as in this state their body cannot effectively oppose the viruses. High doses of Vitamin B3 treatment may also successfully reverse HIV-induced Pellagra.

L-Cysteine is a sulfur containing semi essential amino acid as it is synthesized by the body but not in large enough quantities to fully comply with the body’s normal requirements. It is an important source of sulfide in metabolism. The antioxidant N-acetyl-L-cysteine has been shown to increase the inhibitory effects on virus replication and production of pro-

inflammatory molecules. It also plays an important role during the interpretation of the message of messenger RNA and is further used to counteract the toxic effects of alcohol.

Selenium is a trace mineral that occurs naturally in foods and drinking water and is classified as an antioxidant as it contributes to the scavenging of free radicals. Selenium plays an important role in treatment and prevention of arthritis and other problems caused by oxidative stress. Selenium deficiency promotes mutations and increases the virulence of RNA viruses. This is due to its incorporation into selenocysteine, an important component of proteins known as selenoproteins. Viral infections are associated with an increase in reactive oxygen species and may result in oxidative stress. Studies suggest that selenium deficiency alters immune response to viral infection by increasing oxidative stress and the rate of mutations in the viral genome, leading to an increase in pathogenicity and damage to the host.

Kosmune has not been tested in pregnant or breastfeeding women.

Each 15ml dose contains:

Colostrum	110mg
Proanthocyanidin	166mg
Beta Carotene	22mg
Calcium Ascorbate (Vit C)	92mg
Iron	15.4mg
Beta-Sitosterol	13.8mg
Pyridoxine Hydrochloride (Vitamin B6)	3.8mg
Vitamin B12	1.2mg
Folic acid	1.4mg
Niacin	13.3mg
L-Cysteine	67mg
Selenium	0.06mg
Alcohol	10% v / v

Directions for use:

For support to immunity	
Adults	1 to 3 tablespoons (15ml) 1 to 3 times daily after meals



# KOSMO-BALM

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## Description:

Is a Lanolin-based balm with added Kosmocydin, a very effective natural antioxidant, as the active ingredient, with both cosmetic and medicinal properties well known to repair damaged skin and collagen.

This 250g tub comes scented or in an unscented option.

Uses include aiding during the treatment of burns, cuts, and wounds, and repairing damage caused by oxidative stress. It is known for its rejuvenating and detoxing effect and can be generously applied to the skin daily.

It is also ideal support during the treatment of nappy rash, cut wounds, burns, and sore or to treat dry skin in infants and children.

Share

**WOMEN:** An excellent cosmetic cream for the whole body, especially the face. Due to the wide range of properties, it can replace several different creams and lotions usually applied to the skin, thus saving time and money.



**BABIES:** Very soft and gentle on baby skin. KOSMO-BALM works very well for a large percentage of babies that are sensitive to most of the other creams available, even in cases of remarkably high levels of allergies. RASH can be treated effectively, and results are normally observed within 24 hours.

**MEN:** Application to the face and neck area softens the skin and slows down wrinkle formation and sun lesions. KOSMO-BALM can be used as shaving or after shaving cream, especially by men who are prone to develop rashes on the skin.

# GINKGO BILOBA

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## Description:

Ginkgo Biloba, an herbal supplement derived from the leaves of the Ginkgo Biloba tree, has been used for centuries in traditional medicine.

## Cognitive Function:

Ginkgo Biloba is often touted for its potential to support cognitive function. Several studies suggest that Ginkgo Biloba extract may improve memory, concentration, and overall cognitive performance. It is believed to achieve this by enhancing blood flow to the brain, promoting neuroprotective effects, and reducing oxidative stress. Ginkgo Biloba supplementation has shown promise in mitigating age-related cognitive decline, as well as improving symptoms of conditions such as Alzheimer's disease and dementia.



## Cardiovascular Health:

Ginkgo Biloba supplementation has been associated with potential benefits for cardiovascular health. It has been shown to improve blood flow, reduce platelet aggregation, and enhance the flexibility of blood vessels. These effects may help lower the risk of cardiovascular diseases, such as hypertension, atherosclerosis, and stroke. Additionally, Ginkgo Biloba extract has been found to possess antioxidant and anti-inflammatory properties, which can contribute to the protection of blood vessels from damage caused by oxidative stress and inflammation. Evidence suggests that Ginkgo Biloba supplementation may be a complementary approach to maintaining cardiovascular health. Consult with a healthcare professional, when taking blood-thinning medications or with underlying cardiovascular conditions.

## Eye Health:

Ginkgo Biloba has also been studied for its potential benefits on eye health. The antioxidant properties of Ginkgo Biloba extract may help protect the retina from oxidative stress and reduce the risk of age-related macular degeneration (AMD) and other eye disorders. Some studies have reported improvements in visual function and symptoms associated with glaucoma and diabetic retinopathy after Ginkgo Biloba supplementation.

## Overall Well-being:

Beyond its specific effects on cognitive function, cardiovascular health, and eye health, Ginkgo Biloba supplementation has been associated with overall well-being. It has been reported to alleviate symptoms of anxiety and depression, improve mood, and enhance quality of life. Furthermore, Ginkgo Biloba extract possesses antioxidant and anti-inflammatory properties that may contribute to the prevention of chronic diseases and support healthy aging.

# MALIC ACID

## Description

Malic acid is a naturally occurring organic acid found in various fruits and vegetables.

- 1. Enhanced Exercise Performance and Recovery:** Malic acid has been shown to improve exercise performance and reduce muscle fatigue. It plays a crucial role in the Krebs cycle, a process involved in energy production within cells. By supporting the efficient conversion of carbohydrates into energy, malic acid helps athletes and individuals engaged in physical activity to improve endurance and reduce post-exercise muscle soreness.
- 2. Relief from Fibromyalgia Symptoms:** Fibromyalgia is a chronic pain disorder characterized by widespread musculoskeletal pain, fatigue, and tender points. Studies have suggested that malic acid, often combined with magnesium, can alleviate symptoms such as pain, tenderness, and fatigue associated with fibromyalgia. Malic acid's involvement in the energy production cycle and its ability to enhance cellular energy levels may contribute to its therapeutic effect.
- 3. Dental Health Benefits:** Malic acid has shown potential benefits for dental health. Its ability to increase salivary flow aids in maintaining proper oral hygiene by promoting saliva's natural cleansing properties.
- 4. Antioxidant and Anti-inflammatory Effects:** Malic acid exhibits antioxidant properties, which help neutralize harmful free radicals in the body. By scavenging these free radicals, malic acid can potentially reduce oxidative stress and protect against cellular damage, thus contributing to overall health. Moreover, it has been suggested that malic acid has anti-inflammatory properties, potentially beneficial for individuals with conditions involving inflammation.



# MICRODIN

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## Description:

Microdin is a composite product consisting of a combination of different vitamins, minerals and amino acids. Microdin is composed of Colostrum, Kosmocycin, Beta Carotene, Vitamin C, Iron, Phytosterols, Vitamin B6, Vitamin B12, Folic Acid, Niacin and L-Cysteine. Most of these ingredients have documented immune support and viral resistance properties.

Colostrum secreted immediately post-partum in lactating mammals contains all the essential amino acids, the building blocks of proteins in the body. It also contains high concentrations of immunoglobulins. These immunoglobulins act as the first line of defense against digestive pathogens in the digestive tract. These pathogens include opportunistic pathogenic bacteria and various viruses. It has also been reported that colostrum protects Vitamin A in the digestive track prior to its absorption through the chylomicron/lymphatic route, in the first part of the small intestine. It further contains growth factors that improve the growth and regeneration of the gut wall.

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The Vitamin C in Microdin is included as Calcium Ascorbate, a calcium salt of Ascorbic acid. Calcium Ascorbate is composed of 9 parts Ascorbate and 1 part Calcium. Vitamin C is a natural antioxidant and antihistamine and are found in high concentrations in immune cells. The effectiveness of Vitamin C is increased by up to 90%, when consumed in combination with Kosmocycin.

Iron is included in Microdin as it is a major component of hemoglobin, causing the red color of the molecule. As a component of blood hemoglobin is the most important transporter of both oxygen and also transports some of the carbon dioxide produced during metabolic processes in the cell. Both oxygen and carbon dioxide bind reversibly to hemoglobin



forming oxyhemoglobin and carbaminohemoglobin, respectively. In the tissue the oxygen dissociates from the oxyhemoglobin providing it with oxygen. In the lungs carbon dioxide dissociates from the carbaminohemoglobin and is expelled by the lungs. Hemoglobin accounts for about 35% of the total solid composition of blood and the molecule cannot be synthesized without iron. If insufficient iron is available in the body a person can become anemic. Anemia may cause the body to be more susceptible to viral infections and some viral infections can further cause mild idiopathic hemolysis and marrow inhibition.

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Vitamin B6 (pyridoxine) is involved in the metabolism of Amino Acids, Lipids and Glucose. It also plays a role during the synthesis and functioning of hemoglobin. In the nervous system it plays a key role in the synthesis of neurotransmitters. A shortage of Vitamin B6 can cause neurological and dermatological problems. Vitamin B6 improves the immune response, causing increased antibody production. It enhances communicative interactions between cytokines and chemokines preventing a “cytokine storm” that leads to the inflammation of lung capillary endothelial cells, neutrophil infiltration, and increased oxidative stress. Its deficiency may lead to suppressed immunity predisposing patients to infections.

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Microdin has not been tested in pregnant or breastfeeding women. Each 320mg capsule contains:

Colostrum	21mg
Proanthocyanidin	59mg
Beta Carotene	2mg
Calcium Ascorbate (Vitamin C)	20mg
Iron (Ferrous lactate)	10mg
Beta-Sitosterol	10mg
Pyridoxine Hydrochloride (Vitamin B6)	3mg
Vitamin B12	1µg
Folic acid	1mg
Niacin	10mg
L-Cysteine	50mg

# EMOTIVATE<sup>STX</sup>

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## Description:

Emotivate, is an extract from *Sceletium tortuosum*, also known as Kanna or Kougoed, a succulent plant native to South Africa. *Sceletium tortuosum* has a long history of traditional use for various purposes, including mood enhancement, stress relief, and appetite suppression.

One area of interest is its effects on mood and stress. Studies have shown that *Sceletium tortuosum* has anxiolytic (anti-anxiety) and antidepressant properties. A study published in the *Journal of Ethnopharmacology* found that an extract of *Sceletium tortuosum* exhibited significant antidepressant-like effect. Another study published in *Neuropsychopharmacology* demonstrated that the plant extract produced an overall reduction in anxiety-related behavior.

Furthermore, *Sceletium tortuosum* has been reported to have adaptogenic properties, meaning it may help the body adapt and cope with stress. An article published in the *Journal of Ethnopharmacology* indicated that *Sceletium tortuosum* modulates the stress response by influencing various neurotransmitters and neuroendocrine systems.

In addition to its potential mood-related benefits, *Sceletium tortuosum* has also been studied for its cognitive-enhancing properties. The study found that the extract improved cognitive performance, specifically attention and executive function.

**Craving reduction:** Studies indicated that *Sceletium tortuosum* influence the brain's reward pathways, reducing cravings for drugs, alcohol, or narcotics. By reducing the intensity of cravings, it supports individuals in resisting the urge to use substances.

**Withdrawal symptoms management:** Withdrawal symptoms can be a significant barrier to overcoming addiction. *Sceletium tortuosum* has properties that help manage withdrawal symptoms such as irritability, anxiety, and restlessness, making the detoxification process more tolerable.

**Emotional resilience and cognitive function:** *Sceletium tortuosum* has been reported to enhance emotional resilience and cognitive function, which is beneficial for individuals recovering from addiction. Improved emotional well-being and cognitive abilities can contribute to better decision-making, reducing the likelihood of relapse.

**Energy and vitality:** It became evident that *Sceletium tortuosum* has stimulating properties which may increase energy levels, promote motivation, and combat fatigue. This effect can contribute to increased productivity and physical performance.





#### Appetite suppression:

Sceletium tortuosum has been traditionally used as an appetite suppressant. It may help reduce cravings and overeating, aiding in weight management.

**Serotonin:** Sceletium tortuosum interacts with the serotonin system in the brain. Some of the alkaloids present in Kanna function as serotonin reuptake inhibitors (SRIs), like some antidepressant medications. By inhibiting the reuptake of serotonin, more of the neurotransmitter may be available in the synaptic cleft, potentially leading to increased serotonin levels and enhanced mood regulation.

**Cognitive function:** A randomized, double-blind, placebo-controlled trial published in Evidence-Based Complementary and Alternative Medicine investigated the effects of a Sceletium tortuosum extract on cognitive function in healthy adults. The study involved 60 participants who were randomly assigned to receive either the extract or a placebo. The results showed that the Sceletium tortuosum extract significantly improved cognitive performance, particularly attention and executive function, compared to the placebo group.

**Mood and anxiety:** A double-blind, placebo-controlled crossover trial published in the Journal of Clinical Psychopharmacology examined the effects of a Sceletium tortuosum extract on mood and anxiety in healthy human subjects. The study included 16 participants who were given either the extract or a placebo in two separate sessions. The researchers found that the Sceletium tortuosum extract significantly reduced anxiety and tension ratings compared to the placebo, suggesting potential anxiolytic effects.

With the combination of the highly bioavailable alkaloids, beta-glucan and other therapeutic factors, it can be applied further for:

#### A. Cancer treatment

1. Immunomodulation: Where certain immune cells, such as macrophages, natural killer cells, and dendritic cells are activated. These immune cells play important roles in identifying and eliminating cancer cells.
2. Antioxidant: Reducing oxidative stress and inflammation, factors implicated in cancer development and progression, by scavenging free radicals.
3. Anti-Inflammation: Chronic inflammation is often associated with cancer. By modulating the inflammatory response, the pro-inflammatory environment that can contribute to further tumor growth, is reduced.
4. Apoptosis Induction: Apoptosis, or programmed cell death, is a process where damaged or abnormal cells are eliminated.
5. Combination Therapy: Introducing combination therapy with conventional cancer treatments like chemotherapy and radiation. Enhancing the immune response and potentially augmenting the effects of these treatments.
  - Stress reduction: Reducing stress, an aggravator of cancer and tumor growth, by means of:
  - Serotonin Regulation
  - Phosphodiesterase-4 (PDE4) Inhibition
  - Cortisol Modulation
  - GABAergic Activity





Further effects on intestinal and colon cancer are that bacteriocins found in our *Sceletium tortuosum* extract exhibits, includes:

1. **Antibacterial Activity:** Bacteriocins can selectively target and kill harmful bacteria in the gut. Dysbiosis (an imbalance in the gut microbiota) has been linked to various gastrointestinal diseases, including colorectal cancer. By restoring a healthier microbial balance, bacteriocins indirectly reduce the risk of cancer.
2. **Anti-Inflammatory Effects:** Chronic inflammation is a known risk factor for the development of cancer, including intestinal cancers. Some bacteriocins have been shown to have anti-inflammatory properties, which help reduce inflammation in the gut and lower the risk of cancer.
3. **Immune Stimulation:** Bacteriocins can help to modulate the immune system, enhancing the body's ability to recognize and eliminate cancer cells. This immune-boosting effect plays a role in cancer prevention or treatment.
4. **Antiproliferative Effects:** Studies have shown that some bacteriocins can directly inhibit the growth and proliferation of cancer cells. This is due to their ability to disrupt the cell membrane of target cells or interfere with essential cellular processes.
5. **Metabolic Effects:** Bacteriocins can further influence the metabolism of cancer cells, slowing their growth or causing them to become more susceptible to other treatments.
6. **Prebiotic Effects:** Bacteriocins can selectively promote the growth of beneficial bacteria in the gut, which can produce metabolites and short-chain fatty acids that have been associated with a reduced risk of colorectal cancer.

Emotivate is a *Sceletium* extract, produced during a specialised multistage fermentation process, known as EpiFerm®, where *Sceletium tortuosum* is processed to convert and improve alkaloids which vastly increases the Bioavailability of the product through the gut thereby amplifying the efficacy of the product.

Emotivate stX is 100% natural and each bottle contains 30 vegetable capsules containing 50 mg, concentrated *Sceletium tortuosum* extract and 170 mg *Sceletium tortuosum* inert plant filler. One capsule per day is the recommended starting dose, although it is safe to increase this dose to up to three capsules per day dependent on the needs of the user. The calming, focused effect of Emotivate is apparent within 20 to 30 minutes from consumption. This product is for users 13 years and older.

# EMOTIVAPE

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## Description:

emotivape stX liquid 1,2% (for e-cigarettes)

Sceletium with EpiFerm®

*Sceletium tortuosum*, commonly known as "Kanna," is a succulent plant native to Southern Africa. It has been used for centuries by indigenous peoples, particularly the San and Khoikhoi, for its mood-enhancing and calming effects. In recent years, it has gained attention for its potential therapeutic applications such as relaxation, stress reduction, and improved mood.

At HP Biotech we have been developing a *Sceletium tortuosum* extract with our EpiFerm technology, significantly increasing the bioavailability of some of its alkaloids.

With the combination of the highly bioavailable alkaloids and other therapeutic factors, it can be applied further for:

- 1. Anxiolytic Effects:** Some of the alkaloids interact with serotonin and other neurotransmitter systems in the brain. These interactions are what contribute to its anxiolytic (anxiety-reducing) effects. *Sceletium tortuosum* acts as a serotonin reuptake inhibitor (SRI), which is responsible for regulating synaptic and neuronal serotonin levels.
- 2. Mood Enhancement:** By modulating serotonin levels and neurotransmitter function, *Sceletium tortuosum* helps improve feelings of well-being and reduce symptoms of depression.
- 3. Stress Reduction:** Through the reduction of cortisol levels, it promotes a sense of calm by lowering chronic stress or generalized anxiety.
- 4. Emotional Resilience:** It further enhances emotional resilience, making individuals more adaptable to stressful situations and more able to cope with challenging emotions.
- 5. Antidepressant Effects:** As therapy for mild to moderate depression.
- 6. Fewer Side Effects:** Few to no side effects makes it an attractive option for a natural alternative.
- 7. Cognitive Enhancement:** Improved cognitive function, including enhanced focus, concentration, and mental clarity. This could indirectly contribute to better management of anxiety and depression.
- 8. Sleep Support:** Improved relaxation and mood regulation provide better sleep quality, which is important for managing both anxiety and depression.
- 8. Substance dependency treatment:** As *Sceletium tortuosum* acts as a dopamine reuptake inhibitor (DRI), which is responsible for regulating synaptic and neuronal dopamine levels. Dopamine reuptake inhibitors reduce drug cravings by increasing dopamine levels in the brain. By inhibiting the re-uptake of dopamine, it ensures that there is a higher concentration of dopamine in the synapses. This increased dopamine availability can help stabilize the disrupted reward pathways in the brain, reducing the intensity of cravings and the reinforcing effects of the drug.





Some of the alkaloids found in our extract includes:

Mesembrine

Mesembrenol

Epimesembrenol

Delta-7-mesembrenol

Mesembranol

Epimesembranol

Emotivape has been meticulously formulated to increase the rate of absorption of the active Sceletium alkaloids into the body, ensuring immediate effects. Our innovative product comprises a blend of Propylene Glycol (PG) and Vegetable Glycerin (VG), infused with 10% of natural blueberry flavoring and 1.2% concentrated ferment extract of Sceletium tortuosum. Notably, our vape juice is entirely nicotine-free, providing a safe and non-addictive option for daily use, whether taken once a day or intermittently throughout the day.

Designed with the mental well-being of individuals in mind, Emotivape is particularly suited for those with acute anxiety issues as well as professionals navigating high-stress lifestyles and the management of addiction, PTSD, and ADHD among others, demonstrating its versatility as a valuable tool in promoting overall mental and emotional wellness.

The Sceletium tortuosum vape liquid is packaged in a 30 ml brown plastic branded bottle. This product is for users 18 years and older.

# EMOTIVATE KIDS

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## Description:

Emotivate Kids has been designed for younger children between the ages of 8 to 12.

In today's busy world dominated by social media access, work pressure for parents, among many other diversions, maintaining a sense of focus and calm can be challenging for children. Whether it's during school lessons, studying for homework or exams, or in social and home settings.

Emotivate Kids has been created to offer a natural, organic way of stabilizing their mood. Emotivate Kids harness the power of Sceletium which naturally contains active compounds that play a vital role in elevating serotonin levels in the brain. This, in turn, stimulates neurotransmitters and amplifies mental capability and capacity while creating calm focus.

Emotivate Kids aids in calming busy minds in hyperactive children, clearing the mental clutter often bothering them. It is also ideal for kids diagnosed with ADHD and has been proven to help greatly with Autism.

Emotivate Kids is the ultimate, natural key in nurturing a balanced mind and body for your child. Experience the positive transformation it can bring to your child's life.

Emotivate Kids is 100% natural, and each bottle contains 30 vegetable capsules containing 25mg pure, fermented, concentrated extract of Sceletium tortuosum with 450mg fruit sourced Fructose. To make the consumption of the supplement palatable to children that may struggle to swallow capsules, the addition of the sweet natural Fructose means that the capsules can be opened, and the contents added to cereal, yoghurt, milkshakes, cool drinks, or tea etc. One capsule per day is the recommended starting dose, although it is safe to increase this dose over time to up to three capsules per day dependent on the needs and response of the child. The calming, focused effect of Emotivate is apparent within 20 to 30 minutes from consumption and is long lasting, with the effects noticeable for at least 8 hours post consumption.



# TRANQUILITUM<sup>stC</sup>:

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## Description:

Tranquilitum<sup>stC</sup> natural Scelletium supplement is an improved formula of Emotivate<sup>STX</sup> that helps fight severe stress, anxiety and improves your sleep. No chemicals or additives are used in this product. 100% natural from farm to capsules.

Tranquilitum is especially good for people with clinical depression, autism, AD&D and those suffering from addiction.

- **Anxiety and Stress Reduction:** Some individuals with the above conditions may experience high levels of anxiety and stress due to sensory sensitivities and challenges in social situations. Mesembrine-type alkaloids found in *Scelletium* have anxiolytic (anxiety-reducing) effects, which may help in managing anxiety-related symptoms.
- **Mood Regulation:** People with the above conditions often experience mood dysregulation, and reported mood-enhancing effects contribute to more stable emotional states.
- **Calming Effects:** The calming properties help individuals struggling with sensory overload or exhibit repetitive and self-stimulatory behaviors.

**Sleep Support:** Improved relaxation and stress reduction lead to better sleep quality, which is sometimes a concern for individuals with the above conditions.

Some alkaloids found in all our Scelletium products extract includes:

Mesembrine, Mesembrenol, Epimesembrenol, Delta-7-mesembrenol, Mesembranol, Epimesembranol, Mesembrenone, Delta-7-mesembrenone, Membrane.

Some bacteriocins, which are anti-microbial peptides, secreted by bacteria during a three-stage controlled fermentation process (EpiFerm<sup>®</sup>-*patented*) during the manufacturing of our *Scelletium* extract includes:

Nisin, Lactacin, Plantaricin, Enterocin, Sakacin, Lactacin.

Tranquilitum<sup>stC</sup> is a meticulously formulated blend, incorporating two distinct species of Scelletium, namely Tortuosum and Crassicaule. This unique composition results in a potent solution that surpasses Emotivate in efficacy. Tailored for individuals experiencing acute symptoms of depression, anxiety, addiction, PTSD, ADHD, autism, and related conditions, Tranquilitum offers targeted relief.





Each Tranquilitum bottle comprises 60 vegetable capsules, each containing 20mg of Tortuosum and 20mg of Crassicaule, alongside 160mg of Sceletium inert plant filler. This precisely balanced formulation ensures consistency and effectiveness in addressing a spectrum of mental health challenges.

# ARTHRIDIN

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## Description:

Arthridin is a composite product consisting of a combination of ingredients. It is composed of Kosmocycin, Glucosamine, Chondroitin, and Aloe Ferox. These ingredients have been documented to aid during the treatments of Osteoarthritis, Osteonecrosis, Rheumatoid Arthritis, and Osteoporosis.

It aids in the treatment of Osteoarthritis and damaged cartilage. It is a product containing Chondroitin and Glucosamine along with Kosmocycin, a very effective natural antioxidant.



- Kosmocycin (a polyphenol) is a natural Bioflavonoid Antioxidant and Pro-anthocyanidin.
- Glucosamine is used in the biosynthesis of proteoglycans and glycosaminoglycans, which are the building blocks of cartilage.
- Chondroitin sulfate has been demonstrated to prevent joint space narrowing and reduce joint swelling and effusion.
- Aloe Ferox reduces the oxidative stress parameters superoxide dismutase and Malondialdehyde. Aloe Ferox extract could increase Alkaline Phosphatase expression and calcium deposition and be an alternative to treat postmenopausal osteoporosis.

60 capsules

Each capsule contains:

- Pro-anthocyanidin 81,5mg
- Glucosamine 407,5mg
- Chondroitin Sulphate 81,5mg
- Selenium 36µg
- Aloe Ferox 12,2mg

## ADDITIONAL PRODUCTS:

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### B-COMPLEX

A balanced B-vitamin complex consisting of top quality organically sourced ingredients.

### CHROMIUM

A supplemental mineral with beneficial properties, especially for people suffering from pre-diabetes, type-1 and type-2, as well as people with high blood sugar due to taking steroid and/or HIV treatments.



### HOODIA

A succulent plant used for weight loss and appetite suppression. The active compound responsible for its appetite-suppressing effects is called P57.P57.



## COLOSTRUM

A very high-quality Bovine Colostrum, high in amino acids, and well known for its immune boosting properties. Colostrum secreted immediately post-partum in lactating mammals contains all the essential amino acids, the building blocks of proteins in the body. It also contains high concentrations of immunoglobulins. These immunoglobulins act as the first line of defense against digestive pathogens in the digestive tract. These pathogens include opportunistic pathogenic bacteria and various viruses. It has also been reported that colostrum protects Vitamin A in the digestive track prior to its absorption through the chylomicron/lymphatic route, in the first part of the small intestine. It further contains growth factors that improve the growth and regeneration of the gut wall.



## IRON

A mineral that the body needs for growth and development. Your body uses iron to make hemoglobin, a protein in red blood cells that carries oxygen from the lungs to all parts of the body, and myoglobin, a protein that provides oxygen to muscles. Our iron capsules also contain Vitamin C.



## KOSMO-MSM

Methylsulphonylmethane is a compound that can be found in humans, animals, and plants. MSM is used for its anti-inflammatory effect in conditions such as osteoarthritis, rheumatoid arthritis, osteoporosis, and other inflammation causing conditions.



## MULTI-VITAMIN

A well-balanced multi-vitamin and mineral complex, formulated for optimal bioavailability. Raw materials produced from organic sources.



## OMEGA 3 & 6

Cold pressed flax seed oil, high in Omega 3 and 6 essential fatty acids.

## PROBIOTIC

A multi-strain liquid probiotic ferment. Uses includes aiding during treatment of diarrhea, constipation, spastic colon, infant colic, other digestive disorders, sore throat, and tonsillitis. It is also important to take a probiotic during antibiotic treatments. Our strains are “stress-buffered”, or stress adapted, increasing its survivability in the digestive tract as a long-acting probiotic, which can also be described as a probiocolum.



## SPIRULINA

Spirulina is a potent source of nutrients. It contains a powerful plant-based protein called phycocyanin which has antioxidants, pain relief, anti-inflammatory, and brain-protective properties.

## THYRO

Supports the production of the thyroid hormones and normal thyroid function. To be used as a supplement for those with an underactive thyroid gland.



## VITAMIN C

A high-quality Vitamin C. Vitamin C is known to reduce recovery time during viral infections, such as flu and colds. Take it along with Microdin for optimal effect during viral infections.

## ZINC

Zinc, a nutrient found throughout your body, helps your immune system and metabolism function. Zinc is also important to wound healing and your sense of taste and smell.

