LEHVOSS Nutrition Smart Ingredients for Brain Focus, Mood & Sleep

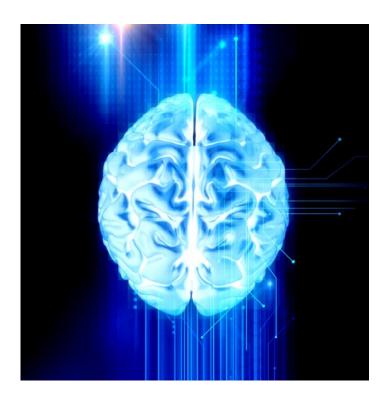






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Introduction to "Smart" Ingredients

Our bodies are, as we know, finely-tuned complex machines capable of amazing feats. However, there is a vast amount we don't know about how our bodies work, with the links between mind and body possibly being the most mysterious area of all.

Science is always on the cusp of new discoveries and it's clear to most that our mood can affect how we feel, mentally as well as physically.

When we are happy we tend to feel lighter, brighter and more energetic. It is also known that a self-care routine can make a positive impact to mood, energy and more, offering many positive health benefits.

Nootropics, or 'smart supplements,' have captured the industry's attention as a rejuvenated opportunity targeting brain and cognitive health. Consumers are seeking performance based formulas that help them reach their peak — not only physically, but also mentally. Nootropics are typically said to enhance any aspect of cognitive function, such as memory, creativity, motivation or coping with stress.

According to Innova data, the nootropic market is growing at a rate of around 20 percent per year, which has partly been boosted by public figures who have reported using nootropics.

The appeal for "smart supplements" is a global trend and can be expected to grow year on year. **LEHVOSS Nutrition** offer an interesting selection of ingredients from adaptogenic <u>ashwagandha</u> and <u>holy basil</u> extracts known for their calming attributes, alleviation of stress, and restorative benefits for a balanced mood and mental vitality, to <u>Bacognize®</u>, for emotional wellbeing, alertness, focus and rejuvenating sleep, as well as <u>Longvida®</u>, a clinically researched curcumin extract, for cognitive support, mood and various aspects related to brain health.

Additionally LEHVOSS offers other key, branded ingredients such as <u>Golden Omega®</u> and <u>PureSea®</u> which could help contribute towards cognitive health.







Bacognize® for Restorative Sleep, Focus & Attention

Getting enough restful sleep, is vital for our overall health and wellbeing. While you sleep, your body works to support healthy brain function and maintain your physical health. Think about how one bad night's sleep, or not enough sleep, makes you feel the next day, for many of us we're grumpy and irritable, we find it difficult to concentrate, and we have no energy. We can overreact when things don't go our way, and we may find we're less excited if something good happens. Optimised sleep hygiene may contribute to a rejuvenating nights' rest, which may be improved with bacopa for morning wakefulness.



A study published in 2021 using <u>Bacognize</u>, a natural standardized extract derived from *Bacopa monnieri*, reported numerous findings in emotional and mental wellbeing, impact on restful sleep, stress, alertness, focus, and other quality of life markers. An analysis of changes in hormone concentrations over time also revealed *Bacopa monnieri* was associated with reductions in slgA (immunoglobulin A), sAA (serum amyloid A), and differences in morning concentrations of salivary cortisol between the two groups (as evidenced by decreased concentrations in the placebo group).

Cortisol levels are measured to assess morning wakefulness and are known to rise about 30-45 minutes after waking which make this important for an awakening response. salivary cortisol concentrations are influenced by the cortisol

awakening response (CAR) which is typified by an increase of between 38% and 75% in cortisol concentrations 30 to 45 min after awakening. Thus, an increase in cortisol in the morning may help promote wakefulness and alertness. ¹

In addition, bacopa is commonly used as an adaptogen supporting cognitive enhancement, memory, focus, attention, mood, emotional health, and stress. Clinical research on Bacognize® demonstrates its benefits for cognitive health (focus, memory and attention) linked to three major neuroprotective mechanisms; including neurotransmitter receptor (serotonin) binding activity and antioxidant capacity.^{2,3}

In a randomized, placebo-controlled crossover human clinical trial, administration of Bacognize® at 300mg/day to healthy medical students significantly improved (p<0.05) several parameters of cognitive function, including memory, focus, and attention. Subjects were healthy people under stress with baseline high intellect and showed positive improvements in a number of parameters including a 53% increase in immediate recall, retention, and learning of logical material and language comprehension as well as a 28% increase in memory and recall of illogical material.

Bacognize® (300 mg/day) in older adults, demonstrated positive trends in working memory, attention, and focus compared to placebo groups in both studies. No adverse events were reported in either the Bacognize® or placebo groups in either study.^{3,4}







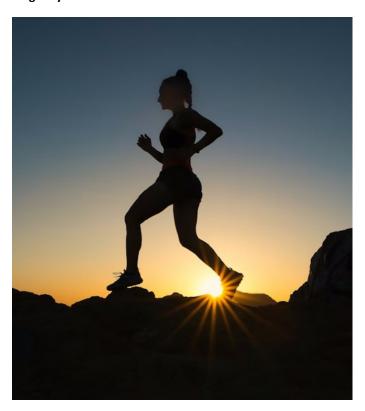


Ashwagandha and Holy Basil for Balanced Mood & Mental Vitality

Within our innovative <u>PlantNutra®</u> selection, we are delighted to offer <u>Holy Basil</u> by Verdure Sciences®. Additionally, from our exclusive branded range, we present <u>Witholytin®</u> Ashwagandha.

These remarkable botanicals function as adaptogens, supporting the body in its efforts to reduce stress, promote mental equilibrium, and enhance overall well-being. Adaptogens are recognised for their capacity to help the body adapt to and resist a wide range of stressors, encompassing physical, chemical, and biological stress factors. These well-known herbs and roots have been integral components of Ayurvedic healing traditions for centuries.

In the ancient and sacred language of Hinduism, Ayurveda signifies the "science of life" or the "knowledge of life and longevity."



Our high-quality <u>Holy Basil</u> extract is a signature botanical ingredient sourced from the leaves, standardised to contain ursolic acid. Holy Basil holds a prominent position in Ayurveda,

supported by scientific research demonstrating its adaptogenic advantages. It is frequently incorporated into applications aimed at enhancing well-being, enabling a sense of calm, alleviating stress, and delivering restorative benefits for emotional balance, mood, and mental vitality.

In a clinical study, subjects who regularly consumed Holy Basil for two months displayed reduced stress levels, diminished anxiety and depression, and improved attention. This study concluded that Holy Basil could be valuable in treating Generalised Anxiety Disorder (GAD) and might serve as a natural anxiolytic.⁷

Another potent adaptogenic offering in the LEHVOSS branded portfolio is Witholytin® Ashwagandha, also known as Withania somnifera (WS). Traditionally, Ashwagandha was classified as a Rasayana, or rejuvenating herb, renowned for its comprehensive health benefits and its ability to promote a youthful state of physical and mental well-being, along with increasing happiness.

The characteristics associated with Rasayanas in Ayurveda closely mirror the modern definition of adaptogens, which are natural substances that assist the body in coping with stress and have a balancing impact on various physiological functions.

Experimental studies have demonstrated that *Withania* somnifera (WS) exhibits significant stress-reducing effects under acute stress conditions. ^{5,6} In one study, naturopathic treatment incorporating *Withania somnifera* (WS) proved to be a safe and effective approach, surpassing standardised psychotherapy in managing generalised anxiety within the Canadian postal worker population. ⁷

In a new published human clinical study conducted in 2023, the safety and effects of Witholytin® were assessed in 111 men and women aged 40-75 years who reported low energy levels and moderate-to-high perceived stress. The study spanned 12 weeks and involved participants taking a daily dose of 200 mg of Witholytin® twice a day.8

The findings indicated that <u>Witholytin®</u> resulted in a substantial 45.81% decrease in the total score of the Chalder Fatigue Scale (CFS) and a 38.59% decrease in stress levels over a 12-week period.







This implies that Witholytin® provides support for alleviating adaptogenic fatigue and enhancing vitality, particularly among middle-to-older age adults who are stressed, fatigued, and overweight.8



Ashwagandha's popularity has sparked worries about adulteration and labelling accuracy. To address these concerns, stringent testing methods and transparent, published methodologies are essential. Many global ashwagandha extract producers use undisclosed HPLC techniques, concealing the specific bioactive withanolides responsible for total withanolide content.

Analytical techniques, such as the USP methodology and the unique UHPLC-PDA method developed for Witholytin® by our partner and producer Verdure Sciences®, have been documented, are reproducible, and employ numerous reference standards to accurately measure the levels of withanolide components. To fully appreciate the advantageous adaptogenic qualities of ashwagandha, it's essential to eliminate any additional stress associated with uncertainty about the composition of your extract - be sure to put transparency to the test.

Longvida®, the Cognitive Curcumin of Choice®

With more than 11 human clinical publications demonstrating Longvida®'s role in cognitive health, it is no surprise that this incredible ingredient has gained positioning in the market as the "Cognitive Curcumin of Choice®". Longvida® contains the natural antioxidant curcumin.

Longvida® promotes healthy brain aging associated with memory, mood, focus, and energy, including support against oxidative stress, AGE formation, and free radicals. In several human trials at different dosages, Longvida® has shown the ability to bind to brain aging-related aggregates (i.e. amyloid-beta) supporting not only efficacy but also safety at various doses. 9,10,11

It would be really difficult, and perhaps too long, to summarise the positive outcomes from more than 67 publications on Longvida®; therefore, we will focus on a couple of studies related to cognitive, mood and healthy aging support.

In 2014, researchers at Swinburne University studied the effects of Longvida Optimized Curcumin® in healthy older adults for its benefits in memory, mood, and fatigue. The results of this trial showed significant positive results in as little as one hour and earned the 2015 NutraIngredients Research of the Year award.

In 2020 the same group of researchers published a partial replication study, further establishing Longvida® as the Cognitive Curcumin of Choice® and supporting the positive results in cognition and mood first recognized in the ground breaking study in 2014. The promising results of this study show potential to support healthy aging with Longvida® Optimized Curcumin®.

The range of significant results includes improvements in measures of mood and cognition such as, decreased fatigue, lowered tension and anxiety, improved working memory, sustained attention, and improved spatial memory and learning.





In conclusion, this data further supports previous findings that Longvida curcumin improves working memory and mood as well as the possibility of learning in healthy individuals. It is noteworthy that memory and fatigue are widely reported as the two more concerning non-physiological aspects of aging. This has potential promise to offset these effects and may also be relevant to conditions where mood and cognition are fragile. ¹³

Benefits of minerals for Cognitive Health

As we know <u>minerals</u> support many functions including brain metabolism, learning, memory and mood. Essential minerals such as zinc, iron, magnesium and selenium could help keep the brain healthy. This is backed by a number of EFSA approved health claims: iron contributes to normal cognitive function, magnesium contributes to a reduction of tiredness and fatigue, and selenium contributes to the protection of cells from oxidative stress.

Zinc is also a very important nutrient, backed by scientific research and recognized by EFSA to contribute to multiple body functions. Various approved health claims link this important mineral to several benefits, from the normal metabolism of fatty acids, macronutrients and vitamin A to the support of the cognitive function.

Zinc is actually one of the most abundant minerals in the brain and according to research, plays and integral role in neurological health.

Zinc deficiency is related to an increased risk of depression as well as increased feelings of anger and aggression. ¹⁴ Also, zinc may potentially support the quality of sleep. ^{15,16} In addition, a recent study (2021) from the Medical University of Białystok in Poland, stated that zinc, copper and selenium could play an important role in boosting the antioxidative status of patients with Alzheimer's Disease (AD). ¹⁷

Learn more about our high quality range of PHARMAGNESIA® minerals here.



Omega-3 and its benefits for Depression

Omega-3 fatty acids are incredibly important for their many functions within the body. It's been studied thoroughly for its effects on heart health and inflammation — and even mental health. Over the years researchers have studied the effects omega-3 may have on depression, as well as other mental and behavioural conditions.

Although the research is fairly recent, and more needs to be done before final conclusions can be made, it's been promising. Most studies are showing that omega-3s may be helpful in treating some forms of depression.







A study (2018) showed how supplementation with omega-3 fatty acids could improve cognitive depressive symptoms and social functioning in patients with comorbid heart failure and depression. ¹⁸ 108 patients with chronic heart failure and MDD received a combination of eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) fish oil, an almost pure EPA, or a matched placebo daily for 12 weeks. Higher omega-3 blood levels were related to lower cognitive depression scores on the Beck Depression Inventory. The social functioning subscore of the SF-36 was significantly improved on the EPA/DHA supplement and tended to improve with the high EPA supplement.



It's believed by some that those who experience depression may not have enough EPA and DHA. This is the premise that researchers are using as they study the possible benefits of using omega-3 fish oil to treat depression. Our Golden Omega Fish Oils are high quality omega-3 concentrates up to 750mg/g EPA + DHA combined. Using a novel patented purification process and produced from pure pelagic fishes from the South Pacific, certified by Orivo for transparency and traceability, Golden Omega® offer traceable, high quality fish oil concentrates with extremely low levels of contaminants and pollutants.

Did you know that iodine is an essential nutrient for cognitive health?

Seaweed offers the only natural, vegan source of iodine making our <u>PureSea®</u> gold-standard seaweed a great choice for your food supplements solutions.

PureSea® ingredients are standardised to iodine, which allow a number of EFSA approved health claims related to the contribution of normal cognitive function, normal production of thyroid hormones and normal thyroid function.

Thyroid hormones are essential for brain maturation, and for brain function throughout life. In adults, thyroid diseases can lead to various clinical manifestations. For example, hypothyroidism causes lethargy, hyporeflexia and poor motor coordination. Even subclinical hypothyroidism is often associated with memory impairment. Hypothyroidism is also associated to bipolar affective disorders, depression, or loss of cognitive functions, especially in the elderly.

Independent research shows that PureSea® gold-standard seaweed provides a more sustained release of iodine in the diet when compared to artificial supplementation. To learn more, please download the PureSea® Cognitive review here.

Having a strong and well-adapted sense of wellbeing can help us overcome many difficulties and help us achieve our goals in life. Research has shown that a greater sense of wellbeing relates to increased physical benefits, such as lower incidences of cardiovascular disease, stroke and sleeping problems, and with increased productivity and creativeness in both employment and personal lives.

In short, having high levels of wellbeing helps us to be the best versions of ourselves. LEHVOSS Nutrition, as a solution provider, offers a number of interesting scientifically researched ingredients and formulations ideas to support overall brain health.









Unlocking the Potential of Liposomes: Innovative Solutions for the Future

LEHVOSS Nutrition offer a liposomal product range which includes PureWay™ B, a comprehensive Vitamin B complex comprising of Thiamin HCL (Vitamin B1), Riboflavin (Vitamin B2), Niacin (Vitamin B3), Calcium Pantothenate (Vitamin B5), Pyridoxine HCL (Vitamin B6), Biotin (Vitamin B7), Inositol (Vitamin B8), Folic Acid (Vitamin B9), Cyanocobalamin (Vitamin B12), and Vitamin C. These components are specially formulated to enhance absorption and delivery, thanks to the advanced PureWay™ liposomal technology called Liposomax™.

Additionally, we offer <u>PureWayTM M</u>, a unique Melatonin product that distinguishes itself from conventional melatonin supplements on the market. It features an authentic liposomal formulation designed to optimise the absorption, distribution, and release kinetics of active ingredients.



Melatonin, a naturally occurring hormone in the body, plays a crucial role in regulating sleep patterns. Its levels rise at night and return to normal during the day. Individuals experiencing sleep issues, such as insomnia, may turn to melatonin supplementation in the form of food supplements. These supplements increase the body's natural melatonin levels, making it easier for individuals to fall asleep more swiftly.

According to research melatonin has shown that it has a "half-life" of approximately 20 to 50 minutes, signifying that half of the initial dosage is eliminated from the body within that period. The remaining half lingers in the body for approximately four to five hours. Therefore, melatonin formulations like PureWay™ M, with superior absorption

capabilities, may contribute to extending the retention of melatonin in the body. ¹⁹

Melatonin is also supported by an EFSA Approved Health Claim for its role in reducing the time it takes to fall asleep. Likewise, Vitamin B boasts several EFSA-approved health claims related to normal energy metabolism, nervous system function, red blood cell formation, immune support, fatigue reduction, hormonal regulation, and cell division.

Given the considerable variation in liposomal products within the industry, it is crucial to seek out high-quality and effective liposomal ingredients. Our PureWay™ B (Vitamin B Complex) and PureWay™ M (Melatonin) are in a powder form and stand out because they are created using authentic liposomal technology known as Liposomax™, as opposed to emulsions. This liposomal technology is developed through a unique, all-natural process that avoids the use of alcohols or solvents and utilises Non-GMO, Vegan, Halal and Kosher-certified sunflower lecithin.





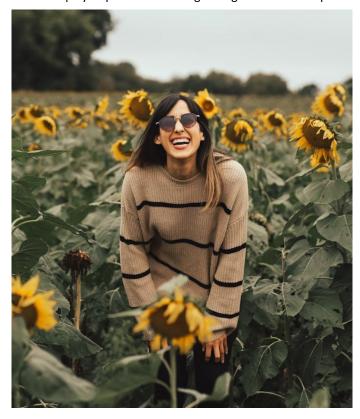




The "MUST HAVE" Essentials by LEHVOSS Nutrition

<u>LEHVOSS Nutrition</u> offers a wide array of thoughtfully selected ingredients from our "must have" essentials range, tailored to meet the demands of consumers seeking enhanced cognitive focus, mood regulation, and improved sleep quality.

<u>L-Tryptophan</u> is a vital amino acid that the body cannot naturally synthesise. It must be acquired through dietary sources or supplementation because of its crucial role in protein synthesis and the formation of specialised compounds like the neurotransmitter serotonin. As we understand, serotonin plays a pivotal role in regulating mood and sleep.



Methylcobalamin and Cyanocobalamin are distinct variations of Vitamin B12, a water-soluble essential nutrient crucial for regular nerve cell function, DNA replication, and the production of SAMe (S-adenosyl-L-methionine), which influences mood.

Although often categorised as Vitamin B8 within the B-Complex, <u>Inositol</u> isn't a vitamin but rather a vital sugar type with multiple essential functions. Studies suggest that it serves

a structural role as a significant component of cell membranes, which may contribute to its potential positive impact on mental health, including conditions like depression, bipolar disorder, and panic disorder.^{20,21}



<u>Pyridoxal-5-Phosphate Monohydrate</u>, also known as P5P, is associated with several EFSA-approved health claims for Vitamin B6. These encompass its beneficial impacts on diverse health aspects, including promoting the nervous system and psychological function, reducing tiredness and fatigue, and modulating hormonal activity.

B Vitamins such as Methylcobalamin (Vitamin B12), Cyanocobalamin (Vitamin B12), and Pyridoxal-5-Phosphate Monohydrate (P5P) offer strong support from numerous EFSA Approved Health Claims, including their roles in energy metabolism, psychological function, and fatigue reduction. This makes them the perfect options for your next moodenhancing dietary supplement concept.

These ingredients are all carefully sourced and manufactured by our worldwide leading suppliers. <u>LEHVOSS Nutrition</u> provides consistently high-quality ingredients, with benefits such as fermentation-based production, water solubility, Kosher and Halal certifications, suitability for both vegetarians and vegans, all backed by our rigorous quality approval processes. You can confidently rely on the quality we've consistently delivered.







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