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ASTASHINE SILVER Capsules: World's Most Powerful Antioxidant & Cognitive Health Nutrient

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ABSTRACT

ASTASHINE SILVER capsule contains A Synergistic combination of natural astaxanthin as well as L-Carnitine L-Tartarate. Astaxanthin has exceptional antioxidant activity to combat singlet oxygen when compared to other antioxidants. In particular, Astaxanthin can be used to defend against singlet oxygen damage, which is especially susceptible to aging effects. In this study, Astaxanthin extracted from Haematococcusmicroalgae powerfully quenched singlet oxygen. Results shows that the quenching effect of Astaxanthin is 800 times greater than coenzyme Q10. Astaxanthin was also about 75 times greater than alpha lipoicacid, about 550 times greater than green tea catechins and about 6000 times greater than Vitamin C. Elderly people have a lower energy demand and eating habits change with age. At the same time, the dietary intake of both L-Carnitine and the nutrients required to make L-Carnitine is reduced. A decrease of L-Carnitine in various body compartments decreases with age. The resulting reduction in energy metabolism due to lower L-Carnitine levels can be restored by L-Carnitine supplementation. The present Article reviews the role of ASTASHINE SILVER capsules as world's most powerful antioxidant, anti-aging & cognitive health nutrient.

Keywords: *Astashine silver capsules, Anti-aging, Oxidative stress.*

Introduction

As aerobic organisms, we depend completely on molecular oxygen for our existence; the typical result of just a few minutes without oxygen is irreparable damage or death. However, although oxygen is utterly critical for human life, this molecule has also a dark side to its actions.

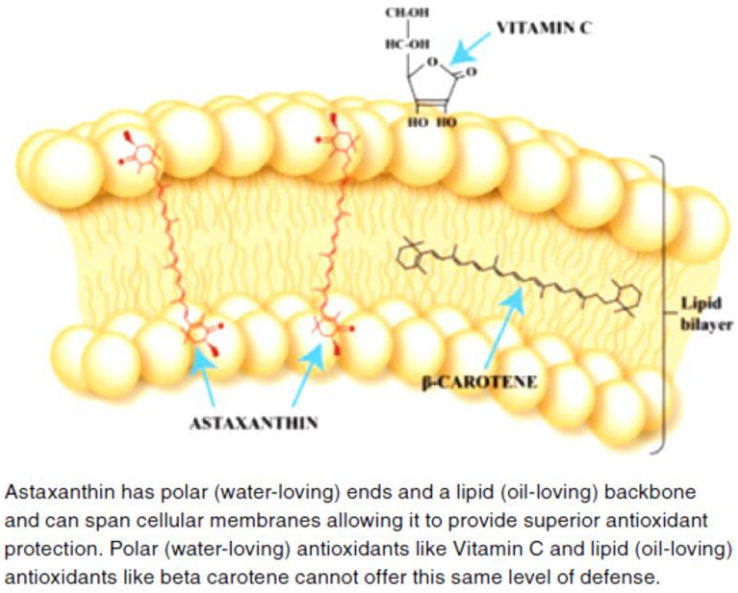
Oxygen is also found in a large number of harmful by-products that are relentlessly being produced in living tissues. These molecules are chemically unbalanced and very active; hence they tend to react with any other adjacent molecule. These *reactive-oxygen species* (ROS) contain reduced oxygen molecules as free radicals and reactive compounds.

In nature, electrons in covalent bonds always come in pairs. Whenever a covalent bond is broken down, each atom is left with one unpaired very active electron, and is therefore termed a *free radical*. Free radicals include superoxide, hydroxyl radicals, and peroxyl radicals; all have one unpaired electron, and thus will seek any other atom with which to react.

ROS also include reactive compounds, which are non-radicals, such as ozone, lipid peroxides, hydrogen peroxide, and singlet oxygen. Additionally, a number of nitrogen compounds containing oxygen, such as nitrogen oxides and peroxynitrite, are also extremely harmful.

The strong tendency of ROS to react with neighboring molecules puts these molecules at risk. Free radicals and highly reactive forms of oxygen are produced in the human body during normal metabolic reactions and processes. Consequently, ROS are found in our bodies at any given time, and react with the tissue molecular constituents, such as proteins, DNA, RNA, carbohydrates, and lipids. The results of such "oxidative attack" may include protein and lipid peroxidation and structural changes in DNA and RNA, which in turn may lead

to damage, mutations, and even loss of function. The oxidation of poly-unsaturated fatty acids in the membranes could induce a chain reaction of free radicals, which in turn could result in the loss of adequate function of the lipid components of the cellular membranes.



Astaxanthin has polar (water-loving) ends and a lipid (oil-loving) backbone and can span cellular membranes allowing it to provide superior antioxidant protection. Polar (water-loving) antioxidants like Vitamin C and lipid (oil-loving) antioxidants like beta carotene cannot offer this same level of defense.

Fig.1. Astaxanthin - Benefits

Physiological stress, air pollution, tobacco smoke, exposure to toxic chemicals, or exposure to ultraviolet (UV) light can enhance the production of ROS. Indeed, oxidative damage has been linked to aging, atherosclerosis, ischemia-reperfusion injury, macular degeneration of the eye, carcinogenesis, neurodegenerative diseases, bacterial and viral meningitis, and many other known health phenomena and diseases, all of which pathogenic conditions involve an underlying oxidative insult, either in their development or in their progression. On the other hand, this constant attack on the body is continuously countered by mechanisms designed to neutralize oxidative damage and prevent associated damage and diseases. An important defense mechanism in the body is the cascade of enzymes that neutralize the ROS prior to the induced damage (superoxide dismutase, catalase, glutathione peroxidase). This preventive pathway is extremely important, since it helps to support a healthy existence. Certain repair enzymes can reverse the damage produced by the ROS, as in the case of DNA breaks being enzymatically restored.

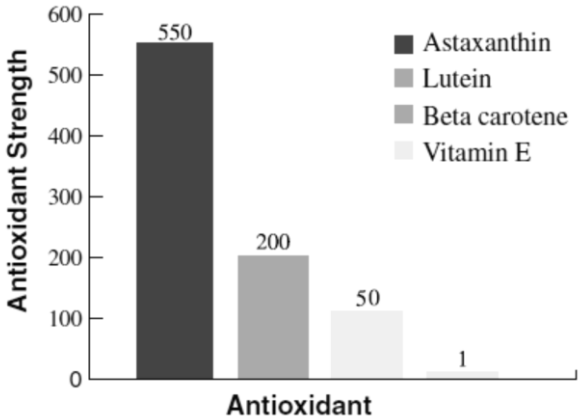


Fig.2. Singlet Oxygen Quenching rates

An additional defense mechanism against free radicals and reactive compounds in the body requires the action of special molecules, ones we call *antioxidants*. Antioxidants are a variety of substances from diverse chemical groups that share one common property: their ability to scavenge for the harmful free radicals and react with these active molecules. Some of the antioxidants in our defense system are synthesized in the body; some are solely consumed with the diet. Progression of, and in some cases even prevent, a wide array of health phenomena and diseases.

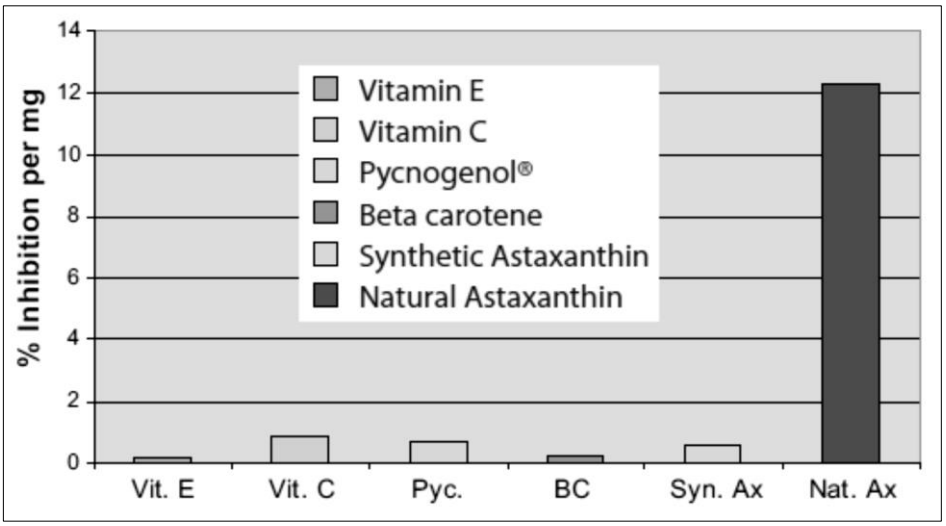


Fig.3. Oxygen free radical scavenging

Astaxanthin in Astashine silver capsules as a powerful antioxidant

Astaxanthin is a carotenoid that belongs to the xanthophyll sub-group, a family of oxygen-containing carotenoids. Unlike the most common carotenoid in the human diet, the Vitamin A precursor carotene, Astaxanthin possesses additional potent hydroxyl and ketone groups at both termini, which are responsible for its official chemical name, 3,3'-dihydroxy-carotene-4,4'-dione. Astaxanthin has two asymmetric carbons (carbons 3 and 3') in its side rings, and thus contains two chiral centers. Therefore, it may present three stereoisomers: 3S, 3'S form, 3R, 3'R form, and the meso form 3R, 3'S.Synthetic Astaxanthin consists of the racemic mixture of the three enantiomers, but only one form is abundant naturally: the 3S, 3'S isomer.

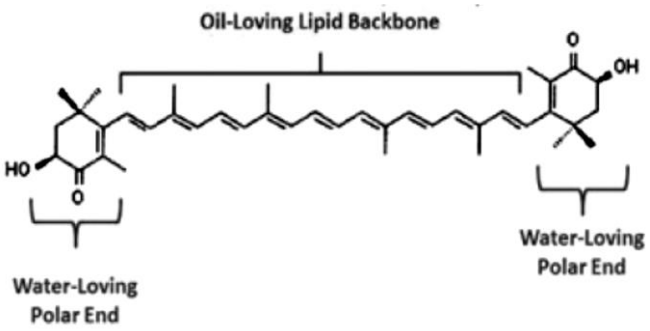


Fig.4. Astaxanthin's molecular structure

Astaxanthin consists of geometric isomers as well, all-trans isomer (all-E), and the c is isomers (mainly as 9Z and 13Z). In nature, Astaxanthin can appear as free Astaxanthin, monoester, or diester; while the most abundant geometric isomer in nature is the all-E isomer. In the microalgae *Haematococcuspluvialis*,

Astaxanthin is accumulated mainly as monoester, partly as diester, and only in minor quantities as free Astaxanthin.

Anti-Aging Benefits of L-Carnitine in Astashine capsules

(1) A major cause of aging is the decline in function of mitochondria, tiny powerhouses that energize our cells.

(2) Most chronic diseases of aging reflect loss of mitochondrial function and numbers, limiting the energy available to cells as we age.

(3) Poorly-functioning mitochondria also impose huge oxidant stress on their parent cells, further accelerating aging and shortening life.

(4) L-carnitine, a natural molecule with several related forms, provides mitochondria with both the energy they need and the antioxidant protection that they must have to retain their youthful function.

(5) Carnitine supplements extend life by increasing energy to tissues throughout the body.

(6) Carnitine supplementation has proven effective in reducing fatigue, enhancing cardiovascular function, improving body composition and promoting weight loss, lowering blood sugar levels, and delaying or reversing brain degeneration.

(7) Its energy-releasing properties make carnitine a useful supplement for reducing the deadly cachexia experienced by many cancer patients.

Composition of Astashine silver capsules

Astaxanthin-2mg (Naturally derived from Haematococcus pulvialis algae extract, which is microencapsulated) & L-Carnitine L-Tartarate 368 mg.

Clinical Study Reports of Astaxanthin in Astashine Silver Capsules

Clinical studies have shown that Astashine capsules have the strongest quenching effect against singlet oxygen, and a strong scavenging effect against free radicals. Astaxanthin was found to be at least 10 times stronger antioxidant than zeaxanthin, lutein, tunaxanthin, canthaxanthin, and beta-carotene, and 100times stronger than Vitamin E.

Supplement	How many times Weaker than Astaxanthin	How many mg to equal 4mg of Astaxanthin
Astaxanthin		
Alpha Lipoic Acid	75 times weaker	300 mg
Green Tea Catechins	550 times weaker	2200 mg
CoQ10	800 times weaker	3200 mg
Vitamin C	6000 times weaker	24,000 mg

Fig.5. Astaxanthin as stronger antioxidant

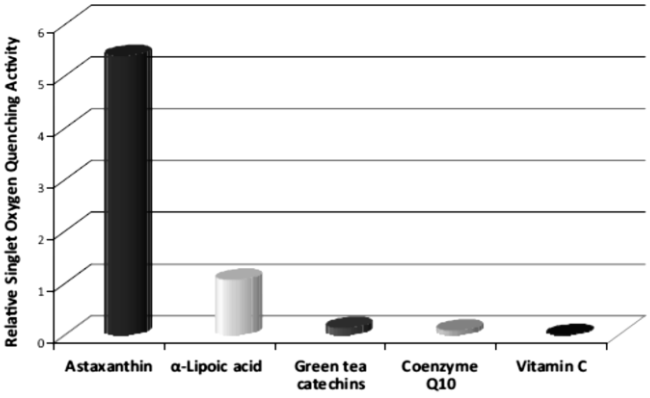


Fig.6. Astaxanthin as antioxidant nutrient

Astaxanthin is a potent antioxidant nutrient with a wide variety of health benefits. Three recent studies demonstrate excellent anti-aging potential, especially to help preserve the efficiency of energy production during aging. Mitochondria are cell's Power house. They need to function well in order to maintain efficient energy production, especially to offset the common decline in mitochondrial function that occurs during aging. Astaxanthin improves the mitochondrial function. Astaxanthin improves antioxidant status and decreases the levels of nitric oxide that is linked to inflammatory states in the circulation. Under the influence of astaxanthin, not only did mitochondria Organelle function better, they grew in physical size and demonstrated superior enzyme activity. When mitochondria grow in size, a process called mitochondrial biogenesis is taking place, a key anti-aging event that is helping body energy production become more youthful [1].

Another study looked at the ability of bovine embryos to maintain normal growth and development under varying levels of heat stress. After disruptive stress was induced upon the embryos, astaxanthin was provided to the embryos, which recovered their normal function and growth pattern. Astaxanthin specifically localized with the mitochondria, rejuvenating normal energy production capability [2]. In Another study, Japanese researchers from the Department of Aging Control, Juntendo University, provided doses of either 6 mg or 12 mg per day of astaxanthin in a randomized, double-blind, placebo-controlled study to test cognitive function in middle aged and elderly patients. Over a 12-week period both groups improved on learning tests, and the 12 mg per day group improved on cognitive testing. The researchers concluded that astaxanthin "improves cognitive function in the healthy aged individuals." Of course, the brain requires efficient mitochondrial energy production in order to perform and is also helped by a reduction in free radical damage – two of the key mechanisms of astaxanthin benefit. Astaxanthin makes sense as part of an anti-aging nutritional program wherein a variety of nutrients help reduce free radical damage and excess inflammation while helping to improve the efficiency of energetic function [3].

Clinical Study Reports of L-Carnitine in Astashine Silver Capsules

l-Carnitine is a special nutrient with a high level ability to positively influence brain health, stress tolerance, and metabolism - especially of fat. l-carnitine is fat soluble and highly active in nerves; it offers superior protection from stress and excitotoxic damage.

l-Carnitine is highly synergistic with the nutrient pantethine, which makes CoA. CoA latches on to fatty acids and turns them into something that has the potential to be metabolized as fuel (acyl-CoA). In turn, l-Carnitine grabs the acyl-CoA and makes acetyl-CoA, a form of fuel used by cellular engines (mitochondria) to make energy. This burning of fat for fuel is called beta-oxidation.

The ability of body to manage CoA correctly is vital to health. l-Carnitine is one of a number of nutrients that has an energetic effect on brain cells. It helps maintain their normal energy production, and thus their health. l-Carnitine is particularly good at protecting nerve cells and even has a regenerative effect on them.

L-Carnitine in Astashine silver capsules in Brain Anti-Aging and Cognitive Health

Alzheimer's and cognitive decline are difficult problems of nerve-related wear and tear that involve the formation of amyloid plaque. l-Carnitine helps address this problem in several ways. l-Carnitine promotes nerve cells to alpha-secretase instead of beta-secretase. This results in less production of beta-amyloid plaque. ALC also preserves the level of BDNF, which helps to repair as well as make new brain cells. BDNF itself has been shown to prevent and reverse Alzheimer's in a variety of animal models.

l-Carnitine also helps brain metabolize fat and cholesterol so that these extra lipids don't build up and clog your brain's function. This cleanup function makes it less likely that cholesterol will form into beta-amyloid plaque. Excess alcohol damages brain cells, in part, by leaving a trail of damaged fatty particles, which then produce free radicals and cause even more damage. l-Carnitine has been shown to clean up these damaged fatty particles, preventing the damage caused by excess alcohol intake.

l-Carnitine helps prevent toxins from interfering with brain cell energy production. The ability to maintain energy production in your brain is vital to mood as well as the lack of wear and tear that is associated with cognitive health. Another recent study showed that a mixture of high quality nutrients, including l-Carnitine, Lipoic Acid, DHA, and Phosphatidyl Serine stopped cognitive decline in an animal model of experimentally induced nerve destruction. l-Carnitine is known to boost general nerve transmission; this was recently tested in diabetic patients with peripheral neuropathy. A dose of 2000 mg per day showed a decrease in pain, improvement in nerve conduction, and some nerve regeneration.

Studies in aging animals invariably show increased inflammation and oxidative damage in the brain. l-Carnitine supplementation not only stops the progression of the inflammation and free radical damage, but it also actually helps reverse the problem, which demonstrates a return of less-aged nerve function. This is a true anti-aging result from l-Carnitine. Another study showed that l-Carnitine restored brain energetics, resulting in less free radicals and less lipofusion formation (age spots) – both features of an anti-aging nutrient.

L-Carnitine in Astashine silver capsules in Energy and Stress Management

l-Carnitine helps preserve the integrity of mitochondria, which are cell's car engines. This is a direct anti-aging function on their integrity, facilitating a cell's ability to make energy. On the other hand, individuals with chronic fatigue are consistently low in l-Carnitine.

L- Carnitine in Astashine silver capsules enhances brain energy supply to function properly

l-Carnitine has been shown to increase the output of serotonin and dopamine, making it a truly natural antidepressant. It does this while enhancing brain plasticity, which means that it can help brain form new patterns of function.

In the face of stress, l-Carnitine helps maintain brain's energy supply, meaning that it noticeably helps cope with stress in a more efficient manner. This study shows that l-carnitine helps maintain brain energy levels and acts as a buffer against oxidative stress, enabling nerves to more efficiently tolerate higher levels of stress.

In a study with elderly men l-Carnitine was shown to improve mild depression, which was measurable not only by questionnaire but also by positive changes in the energetics of their prefrontal brain regions.

Another form of stress is the condition of low oxygen and low blood sugar often found in people with poor circulation and bad eating habits. l-Carnitine has been shown to prevent injury to nerves even in this stressed condition.

Carnitine's influence on mitochondrial function can improve age-induced changes in body composition. When lab animals were given carnitine, they experienced reductions in their abdominal fat mass, increases in their muscle strength, and lower concentrations of *leptin*, a cytokine that triggers fat-induced inflammation.

Human volunteers who took 3 grams/day of L-carnitine for 10 days had favorable changes in body composition. Patients taking L-carnitine used their fat for energy, burning it 22% faster than control patients, and without any increase in muscle protein breakdown. Another study using 2 grams/day demonstrated a loss of total fat mass of 4 pounds, with a gain in lean muscle mass of 8.4 pounds.

Additional studies on animals confirm and extend these findings, showing that propionyl-L-carnitine decreases body weight gain, food intake, and fat composition, while improving insulin resistance.

Benefits of supplementation go well beyond memory, however. Not surprisingly for a *mitochondrial function-boosting* compound, improvements in energy level, and reduction in physical and mental fatigue are commonly reported in studies of carnitine supplementation [4]-[10].

Benefits of L-Carnitine in Astashine silver capsules

Humans create L-carnitine and eat animal products with this amino acid, but further supplementation can have even more benefits. For children ages 6-13 who are diagnosed with ADHD, L-carnitine can have a profound impact on symptoms. One study suggests a 20 – 65% reduction in symptoms. Given the epidemic of children taking prescription drugs with amphetamines, it is useful to find an amino acid (and a naturally occurring one at that) that can have a similar effect as medications.

This amino acid is also useful in the metabolism and protection of cellular mitochondria, which is a powerful anti-aging and neuroprotective agent. Many of the anti-oxidant enzymes prevent mitochondrial damage, which can help to protect the brain from neuronal loss (especially from toxins like alcohol) [9].

Working long hours is becoming more and more common in the western and developing world. The rate of globalization is making competition more difficult to overcome and being able to work for longer while maintaining the quality is a big advantage. Studies showed that L-Carnitine could not only reduce mental (and physical) fatigue, but it could also improve cognition via a MMSE test.

Safety of Astashine Silver Capsules

Astaxanthin has demonstrated safety in numerous human clinical trials. In one open-label clinical study on subjects with metabolic syndrome (n=17). Astaxanthin (16 mg/day, for three months) significantly raised blood bilirubin ($p \leq 0.05$), potassium ($p \leq 0.05$), and creatine kinase ($p \leq 0.01$), although all three values remained within normal range. Also, astaxanthin significantly lowered the liver enzyme gamma-glutamyl transpeptidase (GGTP; $p \leq 0.05$). Since the researchers noted this enzyme was abnormally elevated in 11 of the 17 subjects at baseline, this astaxanthin effect may have been beneficial. Animal experiments have investigated astaxanthin at levels well over 120 mg/day in human equivalents, without causing apparent harm. Hoffman-La Roche confirmed its safety with extensive tests, including acute toxicity, mutagenicity, teratogenicity, embryotoxicity, and reproductive toxicity. L-carnitine is listed as pregnancy category B, indicating animal studies have revealed no harm to the fetus but that no adequate studies in pregnant women have been conducted. L-carnitine has been given to pregnant women late in pregnancy with resulting positive outcomes. The racemic mixture (D, L-carnitine) should be avoided. D-carnitine is not biologically active and might interfere with the proper utilization of the L isomer. In uremic patients, use of the racemic mixture has been correlated with myasthenia-like symptoms in some individuals.

Supplement Facts

Presentation: 60 capsules.

Usage: As a food supplement combination of antioxidants to improve health and vitality.

Contra-indications: Product is contra-indicated in persons with Known hypersensitivity to any component of the product hypersensitivity to any component of the product.

Recommended usage: *Adults:* two capsules per day along with food.

"Do not exceed the recommended daily dose"

Administration: Taken by oral route at any time with food.

Precautions: Food Supplements must not be used as a substitute for a varied and balanced diet and a healthy lifestyle. This Product is not intended to diagnose, treat, cure or prevent any diseases. Do not exceed the recommended daily dose.

Warnings: If you are taking any prescribed medication or has any medical conditions or have any medical conditions (seizures) under age group 17 year always consults doctor or healthcare practitioner before taking supplements.

Side Effects: Mild side effects like nausea, headache and vomiting in some individuals have been reported.

Storage: Store in a cool, dry and dark place.

Keep out of reach of children.

Summary and Conclusion

Astaxanthin, s antioxidant activity has been demonstrated in several studies. In some cases, astaxanthin has up to several-fold stronger free radical antioxidant activity than vitamin E and b-carotene.

The antioxidant properties of astaxanthin are believed to have a key role in several other properties such as protection against UV-light photo oxidation, inflammation, cancer, ulcer's Helicobacterpylorii infection, aging and age-related diseases, or the promotion of the immune response, liver function and heart, eye, joint and prostate health. L-carnitine is useful for a host of physical benefits as well.

l-Carnitine supplementation not only stops the progression of the inflammation and free radical damage, but it also actually helps reverse the problem, which demonstrates a return of less-aged nerve function. This is a true anti-aging result from l-Carnitine.

l-Carnitine restored brain energetics, resulting in less free radicals and less lipofusion formation (age spots) -both features of an anti-aging nutrient. L-carnitine benefits are for blood pressure, heart rate, or blood flow as well. Thus Taking Astashine silver capsules is thus for a whole-body enhancement i.e., physical mental and as cognitive nutrient.

Declarations

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Competing Interests Statement

The authors declare no competing financial, professional and personal interests.

Consent for publication

Authors declare that they consented for the publication of this research work.

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