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Asthashine silver capsules: an excellent choice to boost immune system

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ABSTRACT

Astaxanthin is a naturally occurring carotenoid which is derived from the microalgae *Haematococcus pluvialis* being the most powerful antioxidant known to science, it also has potent anti-inflammatory properties. Natural astaxanthin's distinct advantage in comparison to other antioxidants is its ability to span the entire lipid bilayer of the cell membrane, thus providing superior protection from the inside out. Natural astaxanthin has a strong ability to both balance and strengthen the immune system. L-carnitine in Astashine silver increases the proliferative responses of human lymphocyte following mitogenic stimulation and increase polymorph nuclear chemotaxis. Furthermore, L-carnitine, even at minimal concentrations, neutralizes the lipid induced immunosuppression. This article reviews the current available scientific literature regarding the effect of astaxanthin from the algae *Haematococcus pluvialis* & L-Carnitine in Astashine silver as a natural immune booster.

INTRODUCTION

The immune system is made up of a network of cells, tissues and organs that work together to protect the body against infectious microorganisms, such as certain bacteria and viruses; while also working to destroy any infectious microorganisms that manage to invade the body. Phagocytes are cells that destroy invading organisms, while lymphocytes are cells that allow the body to remember and recognize previous invaders and help the body destroy them – the innate immune response. Natural astaxanthin has shown positive effects and substantial benefit in enhancing the

capacity of both lymphocytes and phagocytes. High level immune function requires large amounts of cellular energy. Infections appear to deplete carnitine levels. L-Carnitine supplementation stores energy and then, the immune response [1-4].

Asthashine silver Capsules as a potent Anti-inflammatory Agent

Inflammation is the body's biological response to harmful stimuli. Acute inflammation is the initial response to such stimuli and in most cases it can be visually identified. The other form of inflammation is "chronic inflammation"; [6-10]

It is often called the **silent killer**. Unlike the acute type chronic inflammation buildup in the body as a result of the immune system constantly responding to threats.

Chronic inflammation is one of the major causes of accelerated aging and many of its associated diseases such as chronic heart disease, arthritis or allergies. It is characterized by the release of cytokines and pro-inflammatory markers such as tumor necrosis factor- α (TNF- α), C-reactive protein (CRP) and others. Luckily, we can test for inflammation by measuring these different biological markers in the blood which will give an indication of inflammation levels [11, 12].

Natural astaxanthin has been shown to help significantly decrease the expression of pro-inflammatory markers and mediators, thus providing potent anti-inflammatory protection in the body. Several studies have been conducted to understand the anti-inflammatory mechanism of astaxanthin and it is thought to be related to the inhibition of the Nf-kB inflammatory pathway [5].

Composition of Astaxanthin Silver Capsules

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

Mechanism of Action

Astaxanthin's outstanding properties as an anti-inflammatory also play a major role in its ability to enhance immune function. Due to the multitude of ways in which Astaxanthin combats inflammation,

it is a very special anti-inflammatory indeed. Both in-vitro and in-vivo research has been done to uncover its mechanism of action as an anti-inflammatory. This mechanism has been further demonstrated in several double blind, placebo controlled human clinical trials on various inflammatory conditions.

Astaxanthin works to suppress different inflammatory mediators. Among these mediators are tumor necrosis factor alpha (TNF- α), prostaglandin E-2 (PGE-2), interleukin 1B (IL-1b) and nitric oxide (NO). In one experiment done with mice and also in-vitro, Astaxanthin was shown to suppress TNF- α , PGE-2, IL-1b, NO as well as the Cox-2 enzyme and nuclear factor kappa-B.

Another study done the same year was led by a researcher from Japan's Hokkaido University Graduate School of Medicine. Here, the researchers found similar results: Astaxanthin was shown in-vitro to decrease the production of NO, PGE-2 and TNF- α . This study also looked at Astaxanthin's anti-inflammatory effect in the eyes of rats. The researchers induced uveitis (inflammation of the inner eye including the iris) and found that Astaxanthin had a "dose dependent ocular anti-inflammatory effect, by the suppression of NO, PGE-2 and TNF- α production, through directly blocking nitric oxide synthase enzyme activity". High level immune function requires large amounts of cellular energy. Infections appear to deplete carnitine levels. L-Carnitine supplementation restores energy and then, the immune response.

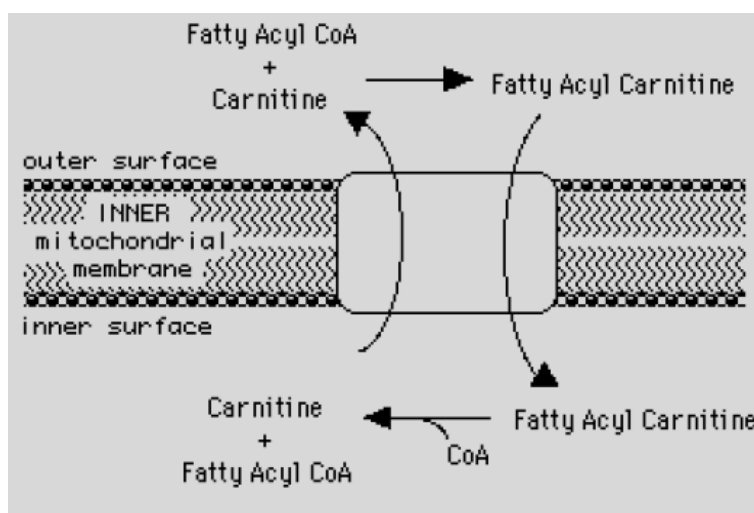


Figure 1: L-Carnitine supplementation restores energy and then, the immune response.

CLINICAL STUDY REPORTS OF ASTAXANTHIN IN ASTASHINE SILVER CAPSULES

Astashine Silver Capsules enhances Immune Response

The immune system is made up of a network of cells, tissues and organs that work together to protect the body against infectious microorganisms, such as certain bacteria and viruses; whilst also working to destroy any infectious micro-organisms that manage to invade the body.

Phagocytes are cells that destroy invading organisms, while lymphocytes are cells that allow

the body to remember and recognize previous invaders and help the body destroy them – the innate immune response.

Natural astaxanthin in Astashine silver capsules have shown positive effects and substantial benefit in enhancing the capacity of both lymphocytes and phagocytes. The first human study to show this effect was published by Park *et al.* in 2010. In this double-blind, placebo controlled study, 42 individuals received 0 or 8 mg/d astaxanthin (AX) vs placebo. Lymphocyte count was significantly increased for the AX group. In addition, those receiving AX demonstrated a significant increase in the levels of B and T cells (figure 2).

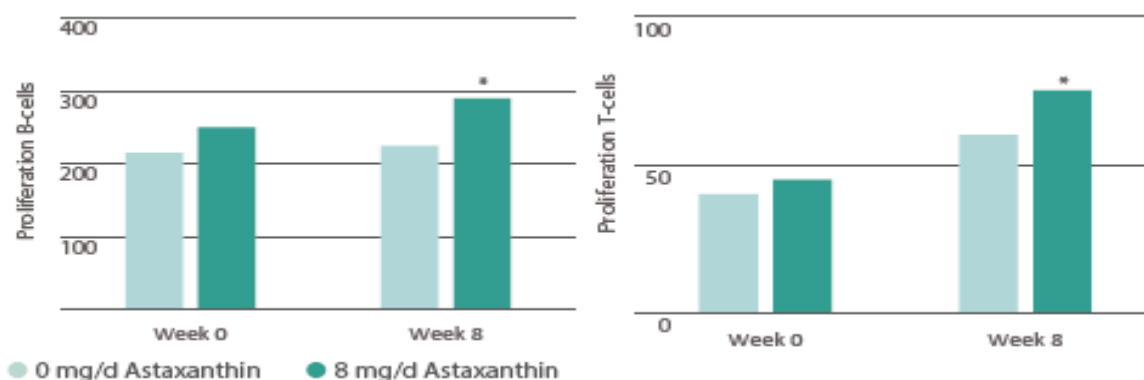


Figure 2

The effect of astaxanthin on immune response was measured in a double blind, randomized study involving 42 subjects. B-cells and T-cells were exposed to high concentrations of mitogens and their capacity to proliferate was measured. * $p < 0.05$ compared with control. Immune cells against oxidative. Research has shown that natural astaxanthin is also a potent anti-inflammatory and is

particularly effective against chronic inflammation. To test its efficacy, scientists have examined the levels of pro-inflammatory markers with and without the presence of astaxanthin. In a 2003 model study, Seonet *al.* found that astaxanthin significantly decreased the expression of different pro-inflammatory markers in Lipopolysaccharide-induced inflammation (LPS) (Figure 3).

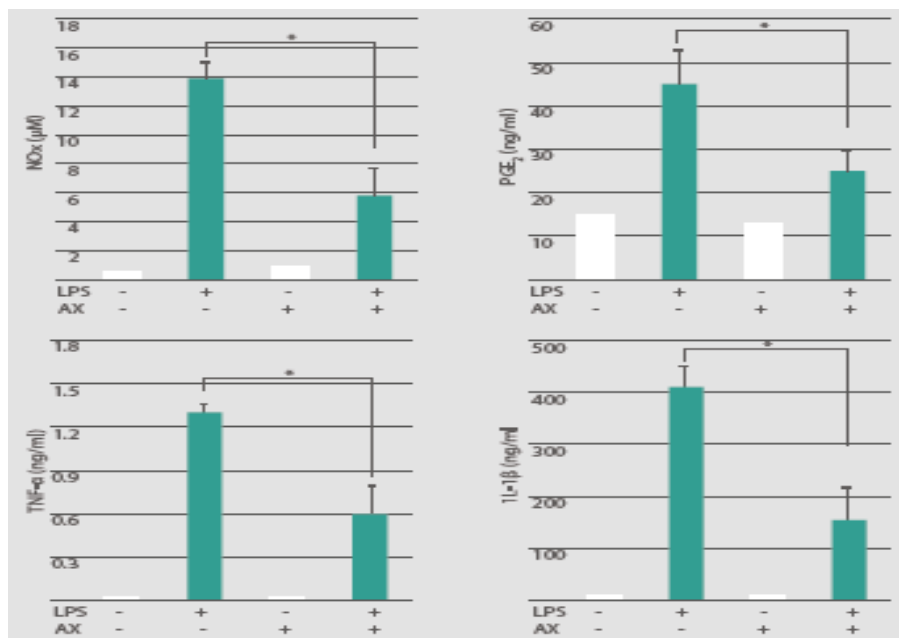
LPS=Lipopolysaccharide AX=Astaxanthin

Figure 3: LPS-induced inflammation showing significant decrease in plasma levels of pro-inflammatory markers NO, PGE₂, TNF-α, and IL-1β.

In another randomized, double blind placebo controlled study; Park *et al.* (2010) examined 42 subjects for the pro-inflammatory marker CRP. The

astaxanthin group supplemented with 2mg/d for 8 weeks showed that the levels of CRP were significantly reduced.

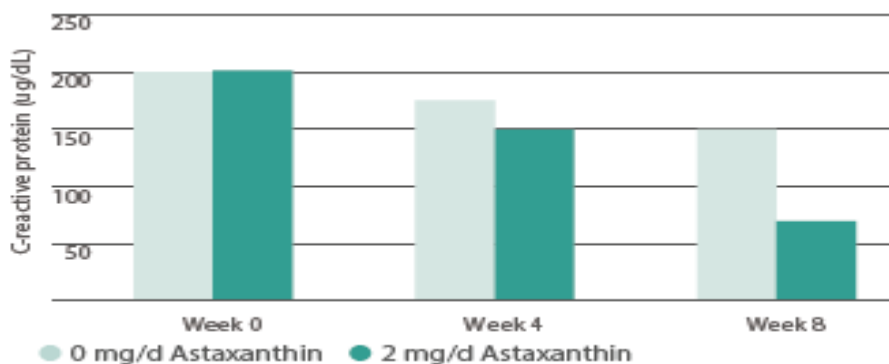


Figure4:8 weeks of supplementation with 2mg/d natural astaxanthin significantly reduced the expression of the pro-inflammatory marker C-reactive protein (CRP).

CLINICAL STUDY REPORTS OF L-CARNITINE IN ASTASHINE SILVER CAPSULES

In a clinical study, patients with Active tuberculosis L-Carnitine was orally administered (2 g/day for 30 days) to 10 patients with active pulmonary tuberculosis. Lymphocyte-mediated

antibacterial activity and serum levels of TNF-α were evaluated before and after treatment, comparing with 10 TBC patients receiving placebo.

RESULTS

Antibacterial activity (by day 30) remained unmodified or increased in ALC-treated subjects,

while decreased in the placebo Group (ImmunopharmacolImmunotoxicol1991, 13 (1-2) p135-46).

L-Carnitine: AN EFFECTIVE ANTI-APOPTOTIC DRUG IN THE TREATMENT OF AIDS PATIENTS

Healthy individuals and HIV-1-LTNPs have less elevated lymphocyte-associated ceramide level than patients with AIDS. A lower frequency of apoptotic CD4 and CD8 cells in long-term, non-progressors than in patients with AIDS.

A short-term (5-day) intra-venous treatment with L-carnitine (6 g/day).

RESULTS

A strong reduction in the percentage of both CD4 and CD8 cells undergoing apoptosis. Significant reduction of peripheral blood mononuclear cell-associated ceramide. The results suggest that L-carnitine could be an effective anti-apoptotic drug in the treatment of AIDS patients. (Immunology Today 1996 Jan;17(1):48)

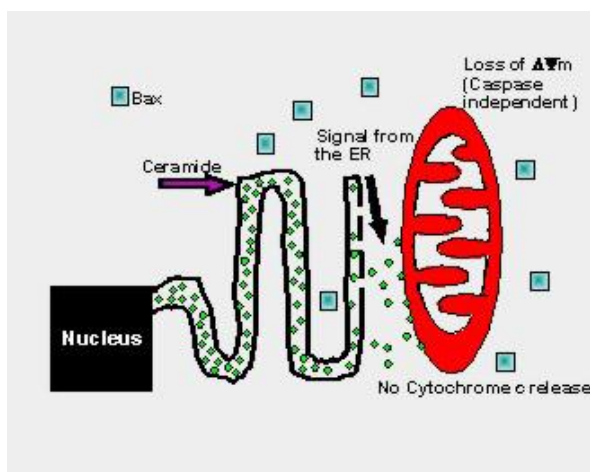


Figure 5: L-carnitine an effective anti-apoptotic drug.

SAFETY OF ASTAXANTHIN 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-glutamyltranspeptidase (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 anytime 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.

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 & CONCLUSION

Studies demonstrate that astaxanthin in Astashine Silver Capsules helps to balance the immune system by stimulating its infection. While also helping suppress the overactive immune responses that create needless inflammation.⁶

Astaxanthin increases the numbers and activity of white blood cells called lymphocytes and natural killer cells that are responsible for creating the body's innate immune response to invaders.⁷⁻⁹

Astaxanthin has similar immune-boosting effects in humans, improving the ability of protective white blood cells to surround and destroy infecting organisms, especially fungi such as *Candida albicans*.¹⁰ Astaxanthin also protects human lymphocytes and neutrophils against the oxidant stresses imposed by the actions of certain white blood cells without reducing the killing effects of white blood cells themselves.¹¹

Human studies reveal astaxanthin's beneficial actions on immune system in patients with allergies and asthma. When astaxanthin was given to asthmatic patients, it suppressed reactive cell activation as well as or better than the antihistamine drugs.¹²

High level immunefunction requires large amounts of cellular energy. Infections appear to deplete carnitine levels. L-Carnitine in Astashine Silver Capsules supplementation restores energy and then, the immune response.

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