

AstaPure®

Natural astaxanthin and emotional well-being

Most of us live a highly demanding life, juggling work, family, relationships and more. This often leads to stress, anxiety and general low mood which can have a profound impact on quality of life and health. In the face of this challenge and in order to achieve psychological balance, we need to boost our emotional resilience.

We can do this with mental health promoting habits such as physical activity, good sleep and connecting to other people. In addition, studies suggest that natural astaxanthin, available as **AstaPure®** is one of the most powerful antioxidants known and may support emotional well-being.



The Brain is Highly Vulnerable to Oxidative Stress

Research suggests a link between oxidative stress, the brain, mental health and emotional well-being^[1]. A balance between free radicals (reactive oxygen species) and antioxidants is essential for healthy physiological function. When this balance is disrupted oxidative stress occurs, resulting in damage to lipids, proteins and DNA.

The brain with its high oxygen consumption (about 20% of the total oxygen in the body) and limited antioxidant defenses is highly susceptible to oxidative stress^{[2],[3]}.

Oxidative stress may be increased in a number of psychiatric disorders, including anxiety and depression^[4].

Oxidative Stress in the Brain Affects our Mood

The hippocampus and frontal cortex, brain regions, involved in depression and anxiety symptoms, are strongly affected by oxidative insult^[5]. Studies of people with depression found an increase in oxidative stress markers and decrease in antioxidant defenses^{[6],[7]}.

Interestingly, treatment with antioxidants has been found to have anti-depressive effects. A 6 year follow up study on 661 elderly persons found that higher total plasma carotenoids concentrations were associated with lower probability of depressed mood^[8]. In addition, findings from animal and human studies clearly support involvement of altered oxidative stress-related mechanisms in anxiety disorders^[9].

Key Benefits of Natural Astaxanthin and Emotional Well-Being



**Antioxidant
(Oxidative Balance)**



**Crosses
Blood Brain Barrier**



**Supports
Mental Function**



**Supports
Mental Resilience**

Natural Astaxanthin Proven to Cross the Blood Brain Barrier

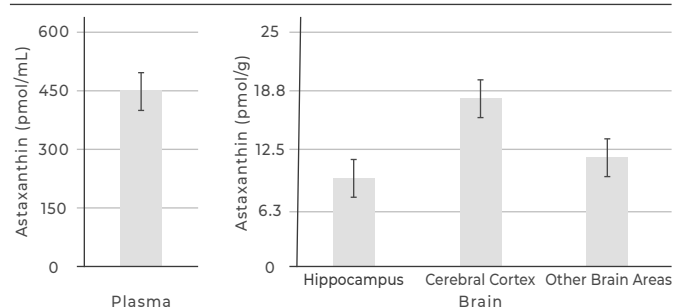
Astaxanthin is a dark red carotenoid naturally produced by the microalgae *Haematococcus pluvialis*. It is one of the most powerful antioxidants known (more potent than vitamin E, vitamin C and lycopene) with over 500 studies of its diverse health benefits.

One of astaxanthin's advantages is that it crosses the blood brain barrier, allowing a potential beneficial effect on the brain.

A recent study found that astaxanthin accumulated in the hippocampus and cerebral cortex of rat brains after single and repeated ingestion (Figure 1)^[10].

Astaxanthin was found to have a positive effect on depressive-like behavior in mice. The beneficial effects of astaxanthin were associated with its anti-oxidative and anti-inflammatory properties^[11].

FIGURE 1: ASTAXANTHIN CROSSES THE BLOOD-BRAIN BARRIER
Astaxanthin can be found in the plasma and brain following supplemented diet. Adapted from Manabe et al^[10]



AstaPure® May Support Recovery from Mental Fatigue

Mental overload is when we are overwhelmed by the volume of information and tasks to deal with. This together with long-term stress can lead to mental fatigue with reduced ability to concentrate and focus.

A natural astaxanthin sourced from Algatechnologies and seasmin combination (AS) was tested in a study

conducted by Fujifilm for effects on mental and physical fatigue. 24 healthy volunteers consumed placebo or AS for 4 weeks. Mental fatigue was induced with 4 hours of memory and visual attention tests. The AS group exhibited significantly improved recovery from mental fatigue compared to the placebo group^[12].

AstaPure® Astaxanthin

AstaPure® is a dark red pigment derived from the microalgae *Haematococcus pluvialis*.

AstaPure® has the highest concentration of astaxanthin – more than 95% of total carotenoids.

AstaPure® is manufactured in an entirely closed environmentally friendly system; fully controlled and totally exposed to the natural sun light of the Israeli Arava desert.



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THESE STATEMENTS HAVE NOT BEEN EVALUATED BY THE FOOD AND DRUG ADMINISTRATION. THIS PRODUCT IS NOT INTENDED TO DIAGNOSE, TREAT, CURE OR PREVENT ANY DISEASE.