



ASTAXANTHIN

ASTAXANTHIN CAPSULES

Befitax Astaxanthin Capsules, an extract powder from *Haematococcus pluvialis*, consist of natural carotenoids including Astaxanthin, Lutein, Beta Carotene and Canthaxanthin. These plant pigments, especially Astaxanthin, are beneficial nutrients to human.^[1] Astaxanthin and other carotenoids cannot be synthesized by human body.^[1-2] They have to be obtained from diet or supplements. Astaxanthin can be found in sources including microalgae such as *H. pluvialis*, and aquatic animals like krill and salmon.^[1,3]

Source	Astaxanthin Content
Krill Oil	0.01 – 0.2% ^[3-6]
<i>Haematococcus pluvialis</i>	1.5 – 3.0% ^[3]
Astaxanthin Capsules	2.5%

Table: Comparison of Astaxanthin Content of different sources.

Although krill oil contains Astaxanthin, yet the quantity is very insignificant and unreliable as it depends largely on the origin and quality. Hence, *H. pluvialis*, found to have the highest capacity to accumulate Astaxanthin, has become the best and main source of Astaxanthin for human consumption.^[1,7] It is also proven safe to be consumed and has been certified GRAS (General Recognized As Safe) by FDA.^[8] Therefore, Befitax Astaxanthin Capsules is surely a natural and high quality product good for our health.

COMPOSITION OF ASTAXANTHIN CAPSULES

Astaxanthin is a reddish orange pigment, also a popular nutritional product famous for its potent antioxidant, anti-inflammatory and hepatoprotective properties.^[1,9] It has a unique molecular structure that contributes to its superb chemical properties.^[1,7,10] Astaxanthin had at least 10 times higher antioxidant activity than other carotenoids like Lutein, Carotene, etc.^[1,7]

Lutein can be found in human eyes, specifically the macula and the rest of the retina.^[11] It is a yellowish pigment which filters blue light at the high energy end of the visible spectrum, thus reducing UV radiation toxicity to the retina and the skin.^[11-12]

Beta Carotene and Canthaxanthin are natural yellow-orange pigments. They are precursors of vitamin A and will be converted into Vitamin A by human body. Vitamin A maintains healthy skin and mucus membranes, immune system, and good eye health and vision.^[13]

ANTI-OXIDATION FOR YOUTH AND VITALITY

Oxidative stress is the cause for many neurologic and mutagenic diseases. Reactive oxygen species (ROS), produced during process of body metabolism, increase oxidative stress in cells and cause damages.^[14-15] At this point, antioxidant is very crucial to counteract with oxidative stress to regain balance, and Astaxanthin is definitely an excellent pick for it.

Astaxanthin inhibits oxidation of cell membranes and terminates free radical chain reactions.^[1,7,10,16] Sufficient antioxidant intake is essential for healthy development from child to adulthood, high-quality aging, preserved cognition and longevity.^[14]

PROTECTION AGAINST ULTRAVIOLET (UV) AND ANTI-INFLAMMATORY

UV light is a significant environmental hazard that causes inflammation and damage to retina of the eyes and skin cells.^[16] Exposure to UV or sunlight leads to production of free radicals, thus causing photo-oxidative damage and degeneration of the tissues.^[17] *H. pluvialis* accumulated Astaxanthin for protection against UV and oxygen radicals,^[3] and so found to exhibit a pronounced photo-protective effect.^[7] Its unique structure helps to remove free radicals and protect cells from the damage.^[16] It is capable of crossing blood-brain barrier and depositing in retina, providing a protection to retina from UV-light damage and enhance recovery.^[17]

Astaxanthin possesses anti-inflammatory property to relieve symptoms of inflammation. It suppresses a variety of inflammatory mediators.^[7] Japanese researchers found that Astaxanthin is a promising molecule for the treatment of ocular inflammation in eyes.^[18-19]

FUNCTIONS OF ASTAXANTHIN CAPSULES:

- Antioxidant and anti-inflammatory ^[1,9,17]
- Enhance immune system ^[1,17]
- Provide protection for our cell against UV and free radical damage ^[1,7,13-17,20]
- Promote general health and wellbeing ^[1,17]
- Promote healthy skin and anti-ageing ^[7,17,20-21]
- Promote healthy cardiovascular system ^[1,7,17,23-24]
- Promote healthy liver ^[7,17]
- Support increasing of energy level ^[24-25]
- Support body muscle recovery from exercise ^[7,26]
- Support eye health and help to decelerate aging of vision ^[7,16-17,27]

RECOMMENDED DAILY DOSE:

Adults: Take one to two capsules daily with meal or as recommended by your physicians.

PRECAUTIONS:

If you are pregnant or breastfeeding, consult your physician prior to using this product.

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