

ASTAXANTHIN - THE HEALTHY TEN

# THE HEALTHY TEN

TEN CLINICALLY-VALIDATED BENEFITS  
OF NATURAL ASTAXANTHIN



## BRAIN HEALTH

4 Human Clinical Studies  
50 Supporting Pre-Clinical Trials



## EYE HEALTH

14 Human Clinical Studies  
24 Supporting Pre-Clinical Trials



## SKIN HEALTH & UV PROTECTION

7 Human Clinical Studies  
27 Supporting Pre-Clinical Trials



## CARDIOVASCULAR SUPPORT

6 Human Clinical Studies  
40 Supporting Pre-Clinical Trials



## IMMUNE SYSTEM MODULATION

4 Human Clinical Studies  
26 Supporting Pre-Clinical Trials



## ANTI-AGING & CELLULAR HEALTH

42 Human Clinical Studies  
214 Supporting Pre-Clinical Trials



## MALE FERTILITY

3 Human Clinical Studies  
11 Supporting Pre-Clinical Trials



## ATHLETIC PERFORMANCE & ENERGY LEVELS

12 Human Clinical Studies  
27 Supporting Pre-Clinical Trials



## JOINT, TENDON AND MUSCLE SUPPORT

9 Human Clinical Studies  
51 Supporting Pre-Clinical Trials



## WORLD'S STRONGEST & HIGHEST QUALITY NATURAL ANTIOXIDANT

10 Human Clinical Studies  
87 Supporting Pre-Clinical Trials



## WORLD'S STRONGEST & HIGHEST QUALITY NATURAL ANTIOXIDANT

### Clinical Trial Results

- Reduces various oxidative stress markers
- Prevents oxidative damage
- Prevents peroxidation of blood lipids including LDL cholesterol
- Prevents depletion of non-enzymatic antioxidant defense
- Dosage range 2mg to 4mg per day

### In-Vitro Research Results

- Multiple times stronger than all other antioxidants tested in various head-to-head antioxidant experiments regardless of testing method
- Generally at least 10X stronger than all other carotenoids
- 800X stronger than CoQ10
- 550X stronger than Vitamin E
- 6000X stronger than Vitamin C
- 20X to 90X stronger than Synthetic Astaxanthin as an antioxidant in three separate tests from two peer-reviewed studies



## JOINT, TENDON & MUSCLE SUPPORT

### Clinical Trial Results

- Decreases C-Reactive Protein (CRP) levels (key marker for systemic or "silent" inflammation)
- Prevents muscle damage and inflammation in athletes
- Reduces pain in rheumatoid arthritis sufferers
- Decreases pain rate and pain duration in carpal tunnel syndrome sufferers
- Improves grip strength by 93% in sufferers of tendonitis (tennis elbow) with reduced pain and improved mobility
- Reduces joint and muscle pain in heavily-training athletes
- Dosage range 4mg to 12mg per day

### In-Vitro Research Results

Astaxanthin has been shown to support 8 different inflammatory response markers without side effects or contraindications

- Tumor Necrosis Factor-A
- Prostaglandin E-2
- Interleukin 1-B
- Interleukin 6
- Nitric Oxide
- Nuclear Factor Kappa-B
- Cox 1 Enzyme
- Cox 2 Enzyme



## EYE HEALTH

### Clinical Trial Results

- Dose-dependently improves visual acuity (the ability to see fine detail)
- Improves depth perception
- Improves eye fatigue
- Also can prevent eye fatigue
- Increases retinal capillary blood flow
- Increases blood flow velocity to the eyes
- Prevents eye strain
- Improves eye accommodation (adjustment of the lens that allows it to focus)
- Reduces blurred vision
- Reduces eye soreness
- Prevents eye dryness
- Prevents diplopia (double vision)
- Dosage range 4mg to 8mg per day



## CARDIOVASCULAR SUPPORT

### Clinical Trial Results

- Improves blood lipid parameters in patients with mild hyperlipidemia
- Dose-dependently inhibits LDL cholesterol oxidation
- May contribute to the prevention of atherosclerosis
- Improves blood flow rate
- Decreases heart rate of athletes when doing endurance training
- Dosage range 4mg to 18mg per day



## BRAIN HEALTH

### Clinical Trial Results

- Prevents age-related decline in cognitive function
- Improves psychomotor function in elderly subjects
- Improves marker for dementia in middle-aged and senior subjects and may contribute to the prevention of dementia from aging
- Improves cognitive function in healthy middle-aged and elderly subjects
- Decreases mental fatigue and confusion
- Improves erythrocyte antioxidant status to help transport oxygen to the brain
- Dosage range 6mg to 12mg per day



## SKIN HEALTH & BEAUTY-FROM-WITHIN

### Clinical Trial Results

- Reduces fine lines and wrinkles
- Increases skin moisture levels
- Improves skin elasticity
- Prevents skin sagging
- Reduces visible signs of UV-aging within four to six weeks of use
- Prevents photo-aging of skin
- Prevents UV damage
- Improves skin conditions in all layers of the skin (corneocyte layer, epidermis, basal layer and dermis)
- Dosage range 4mg to 6mg per day



## ATHLETIC PERFORMANCE & ENERGY LEVELS

### Clinical Trial Results

- Improves power output by 15% and reduces racing time by 5% in competitive cyclists
- Promotes recovery from exercise
- Prevents muscle fatigue
- Improves endurance
- Increases strength in healthy subjects
- Increases grip strength in sufferers of tennis elbow by 93%
- Decreases lactic acid levels
- Decreases respiratory parameters during exercise
- Helps prevent muscle damage and inflammation in elite soccer players
- May be effective in preventing exercise induced free radical production
- Improves oxidative status in athletes
- Prevents joint and muscle soreness after exercise
- Decreases heart rate in athletes doing endurance training
- Dosage range 4mg to 12mg per day



## IMMUNE SYSTEM MODULATION

### Clinical Trial Results

- Improves a variety of immunity markers in subjects at only 2mg per day in eight weeks
- Increases the total number of antibody-producing B-cells
- Amplifies natural killer cell cytotoxic activity
- Leads to increased number of T-cells
- Stimulates white blood cell counts
- Significantly increases delay-type hypersensitivity response
- Dramatically reduces DNA damage
- Raises immunoglobulin levels in healthy athletes
- Suppresses lymphocyte activation in patients with allergic rhinitis and pollen-related asthma
- Leads to therapeutic improvement in patients suffering from auto-immune disease
- Dosage range 2mg to 4mg per day



## FERTILITY & SPERM IMPROVEMENT

### Clinical Trial Results

- Improves sperm functioning
- Increases sperm linear velocity
- Improves sperm quality
- Increases sperm motility
- Decreases reactive oxygen species in sperm
- May be used to decrease male idiopathic infertility
- Improves conception rate in infertile men
- Also improves sperm functioning and motility in normal men without any fertility issues
- Dosage 16mg per day



## ANTI-AGING & CELLULAR HEALTH

### Clinical Trial Results

- Skin Health and Beauty-from-Within
- Eye & Brain Health
- Joint, Tendon & Muscle Health
- Cardiovascular Protection
- Immune System Modulation
- Strength, Endurance and Energy
- Dosage range 4mg to 12mg per day

### In-Vitro Research Results

- Mitochondria protection
- Prevention of damage to DNA
- Profound inhibition of oxidation
- Safe & natural anti-inflammatory activity

## MAJOR AREAS OF PRE-CLINICAL RESEARCH

- Support of Healthy Cell Lines **46** studies
- Gastrointestinal Health **31** studies
- Glucose Metabolism Management **25** studies
- Liver & Kidney Health **23** studies
- Respiratory Health **4** studies

# WHAT IS ASTAZINE®?



AstaZine® is a line of natural astaxanthin products from *Haematococcus pluvialis* microalgae produced in a fully-closed, 100%-glass tube ecofriendly photobioreactor system.

AstaZine®:







- Contains 97% pure astaxanthin in the carotenoid fraction and just 3% of other carotenoids
- The world's first Organically Certified astaxanthin product (certified by Ecocert®)
- Covered by two NDIs with US FDA at 12mg and 24mg per day
- Supported with 239 health claims submitted to US FDA without objection
- The only astaxanthin with two European Novel Foods approvals for both supercritical CO<sub>2</sub> and ethanol extracts.
- Self-affirmed GRAS
- Registered for sale in most of the world's most regulated markets



Algae Health Sciences, Inc., a subsidiary of BGG, focuses on the production and marketing of efficacious ingredients from natural algae sources. Algae Health Science's flagship product, AstaZine® Natural Astaxanthin, is extracted from the world's first Certified Organic *Haematococcus pluvialis* microalgae.



Algae Health Sciences, Inc., is a proud member of NAXA, the Natural Algae Astaxanthin Association. NAXA is dedicated to building awareness of the health benefits of Natural Astaxanthin. Algae Health Sciences and BGG support the NAXA Verification Program (NAV/P) to address the growing problem of adulteration within the dietary supplement industry and assure finished product manufacturers and consumers that the astaxanthin they are purchasing is natural astaxanthin derived from *Haematococcus pluvialis*.

	Astaxanthin content	 tablets	 hard capsules	 softGel capsules	 drinks	 sachets	 Cosmetics
Astaxanthin Oleoresin	5%, 10%, 20%			X			X
Astaxanthin Water Dispersible Powder	1%, 2%		X		X	X	
Astaxanthin Water Dispersible Emulsion	1%				X		X
Astaxanthin fish gelatin Beadlets	2%, 2.5%	X	X				
Astaxanthin veggie Beadlets	3%	X	X				
Astaxanthin Spray Dried Powder	4%, 5%	X	X	X			

Please note this documentation is available for various countries all over the world and hence it may contain statements or product classification not applicable to your country. The claims made are in reference to ingredients only, hence they do not refer to finished products. Marketers of finished products containing the ingredient described herein are responsible for determining whether the claims made for such products are lawful and in compliance with the laws of the country in which they will market the products. Please note that the physiological activity of the ingredient described herein is based on scientific literature done on Astaxanthin not necessarily sponsored or done with AstaZine®.

For extensive product information, please see [www.algaehealthsciences.com](http://www.algaehealthsciences.com)

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