



OPTIMUM CHOICES, LLC  
*Healthy choices for people and pets*

## Antioxidants and Bio-Algae Concentrates

There are many supplements that claim to be superior antioxidants with proprietary formulas or extraction techniques to make their product better than Nature's. But are these supplements safe and are they really better than Nature's own superfood antioxidants? Our 90+ years of "wholistic" experience and research shows the following differences between isolated supplements and whole food products:

SUPPLEMENTS	WHOLE FOOD PRODUCTS
Fill a single deficiency or fulfill a single purpose	Nourish, energize and balance the whole body
Make the body dependent on this external supply of nutrition	Do not create a dependency on the product
Rarely fix the cause of the original symptom or illness	Activate the body's own natural ability to heal
Contain partial ingredients, give partial results	Contain whole food ingredients, give whole (complete) results
Have side effects	Have no side effects

While some people have such debilitating symptoms and imbalances they may need strong supplements (and even drugs) just to survive, our "wholistic" preference is to use Nature's own superfood products first to see if waking up the body's own natural ability to heal can work.

- Rather than creating a dependence (crutch) on supplements (or drugs), where one has to take ever increasing amounts just to get the same benefits, why not awaken the genius within your own body to do the healing.
- Instead of relying on the product to do the healing why not let the body's own natural ability to heal do the work. Less guess work and no lab tests required.
- When the body is doing the healing instead of the product (supplement or drug), there are no side effects.

Remember, algae products are NOT supplements but are Nature's first food to evolve and are at the bottom of the food chain. The Kingdoms in Nature are:

1. Bacteria (sometimes split into two Kingdoms)
2. Protista (means the very first)—includes unicellular (one-celled) and multicellular organisms, including **algae**, that are not part of the Fungi, Plant or Animal Kingdoms)
3. Fungi
4. Plant
5. Animal (herbivores, carnivores, omnivores, including human)

Each of the higher Kingdoms of Nature are dependent on the lower kingdoms for food and biological functions that they cannot perform themselves. We “wholistically” believe Nature's own whole food antioxidants are safer and superior to than anything a scientist in a laboratory could produce. As Hippocrates said, “Let food be thy medicine and medicine be thy food.” You be the judge as to what works best for your body.

## Research from [TheMagicisBAC.com](http://TheMagicisBAC.com)

### Astaxanthin

Astaxanthin is 40 times more effective as an antioxidant than b-carotene, 500 to 1000 times more effective in inhibiting lipid peroxidation as an antioxidant than Vitamin E, has greater anti-inflammatory capability than Vitamin E, has almost 4 times the antioxidant capacity of lutein, is superior protection against UVA and UVB light-induced oxidative stress, is more stable in scavenging and quenching than b-carotene, canthaxanthin and zeaxanthin, is highly potent in enhancing T1 and T2 helper cells and IgM and IgG (secondary immunity) production, is more effective than lycopene and lutein in enhancing liver microsome detoxification activity (enzymes that metabolize drugs), enhances the actions of Vitamins C and E in the body, and enhances the release of retinol (Vitamin A) from the liver when needed.

Astaxanthin has been shown to inhibit lipid peroxidation at the cell level, thus protecting the cell membrane and the mitochondrial membrane within the cell, cross the blood-brain barrier which makes it available to the eye, brain and central nervous system to alleviate oxidative stress that contributes to ocular and neurodegenerative diseases such as glaucoma and Alzheimer's, and to provide significantly more antioxidant capacity than other carotenoids and antioxidants, such as beta-carotene and Vitamin E. ([www.themagicisbac.com/page10-01-02.html](http://www.themagicisbac.com/page10-01-02.html))

Astaxanthin as contained in BAC has also been studied for its efficacy in addressing the conditions imposed by type II diabetes. Studies have demonstrated that astaxanthin was capable of reducing blood glucose levels by nearly 40% in laboratory mice administered with an Intraperitoneal Glucose Tolerance Test (IPGTT), as well as preserving pancreatic beta-cells from oxidative damage and increasing insulin sensitivity. A later study, also among laboratory mice, revealed that astaxanthin can aid in the prevention of diabetic nephropathy as measured through the inhibition of urinary albumin loss and DNA damage - by 67% and 50% respectively. ([www.themagicisbac.com/page27-00.html](http://www.themagicisbac.com/page27-00.html))

From this entrenched position, astaxanthin inhibits the lipid peroxidation of the cell membrane (which is the ‘gatekeeper of the cell’ –controlling what comes in and out), by extension protecting the mitochondria and the rest of the cell from potentially damaging peroxidation. Astaxanthin can also quench free radicals by adding them to its structure rather than sacrificing an atom or electron, meaning that unlike most

antioxidants, astaxanthin is far less likely to become a mild free radical in its own right after quenching one. This also allows astaxanthin to be more biologically active, enabling it to trap and quench more free radicals - and of a greater variety - than most other antioxidants.

[www.themagicisbac.com/page27-01.html](http://www.themagicisbac.com/page27-01.html)

## Reduced Pains

During the 2000 Winter Games held in St. Petersburg Russia, BAC was compared with two other supplements – Ginseng and a Chinese herb. It was reported by the team players as being the best for alleviating pain, particularly knee pains, for recovery on the bench between plays, for post game energy recuperation and blood oxidation reduction. Igor Kravcuk and Pavel Bure, then NHL team players, sponsored this experiment.

[www.themagicisbac.com/page28-01.html](http://www.themagicisbac.com/page28-01.html)

## Is there any antioxidant glutathione in BAC?

I assume here that this question is inspired by the glutathione deficiency theory and those that have a supplement just for it. This theory proposes that "by providing a supplemental mega dose of the amino acid cysteine from pharmaceutical-grade milk serum protein isolates, this will allow cells to synthesize and replenish their glutathione stores".

What is not shared with this theory are other relevant facts, for example; many other foods or lifestyle changes will stimulate glutathione production; a simple jog and a good meal will stimulate glutathione production too; meditation and a good salad will do too; that no one stimulant can take credit for natural human metabolisms.

Glutathione is produced in the human liver and plays a key role in intermediary metabolism, immune response and health, though many of its mechanisms and behavior await further understanding. It is also known as gamma-Glutamylcysteinylglycine and GHS. It is a small protein composed of three amino acids, cysteine, glutamic acid and glycine. Glutathione is found in two forms, a monomer that is a single molecule of the protein, and a dimer that is two of the single molecules joined together. The monomer is sometimes called reduced glutathione, while the dimer is also called oxidized glutathione. The monomer is the active form of glutathione. Oxidized glutathione is broken down to the single molecule by an enzyme called glutathione reductase.

In response to the deficiency theory; a typical capsule of BAC contains ~50% of amino-acids comprising all known amino-acids, including cysteine. More importantly BAC is a wholistic approach "aimed at the whole being" (nourish all cells of the body) rather than a palliative approach "aimed at the symptom/deficiency" (cysteine to stimulate glutathione). BAC nourishes/stimulates efficiently all the cells of the body including those of the brain glands which in turn increase all metabolisms of health in the body including the production of glutathione at the cellular level.

In ending, let me point out that when BAC is fed to dairy cows (and other species) it allows them to reduce their daily protein (amino acids) need by 1.25lbs while increasing productivity by ~20%. That is due to better protein uptake and more importantly better protein synthesis and utilization at the cellular level.

It is smarter to stimulate the producer glands of the brain rather than supplement all the deficiencies of the body; you will soon be taking hundreds of supplements if you fall for each deficiency theories.

[www.themagicisbac.com/page40-00.html#Is there any antioxidant glutathione in BAC?](http://www.themagicisbac.com/page40-00.html#Is there any antioxidant glutathione in BAC?)

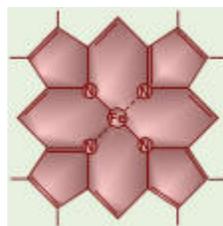
**SELENIUM** : Originally believed to be a toxic heavy metal, but now known to be necessary for health. It retards aging, harmful oxidation and free radical formation, reduces the toxic effect of carcinogens, and improves cardiac efficiency.

## **Thus, chlorophyll is at the center of the photosynthetic oxidation-reduction reaction between carbon dioxide and water.**

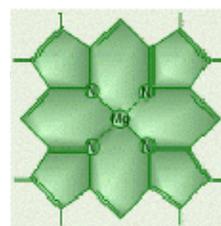
### **Chlorophyll and Blood Regeneration**

Chlorophyll is sometimes called "green blood" because of its similarity to the hemoglobin molecule found in human blood cells. In fact, both are constructed of almost identical molecular structure called pyrrole rings, and both substances are chemically known as "porphyrin pigments" by scientists.

The difference is that chlorophyll contains a magnesium ion at its core, while hemoglobin contains an iron molecule. Magnesium imparts a green color to the chlorophyll molecule and is involved in synthesis of other materials, while iron gives hemoglobin a red coloration and changes the function of the porphyrin molecule to respiration and breakdown of materials. But perhaps the most interesting connection between green foods and blood is the similarity in the structures of the two colored pigments, heme and chlorophyll.



Heme Molecule in Blood



Chlorophyll Molecule

There are many reasons why cereal grass and other dark green plants can be considered "blood-building" foods. The vitamins and minerals in cereal grass are essential to the synthesis and function of the components of healthy blood.

The biological relationship between these two molecules, though studied for over 60 years, is still not completely clear. It does appear, however, that small amounts of the digestive products of chlorophyll may stimulate the synthesis of either heme or globin or both in animals and humans.

### **What's so good about the chlorophylls in BAC?**

Algae contained in BAC are the richest source of chlorophylls on planet Earth. BAC's most visible pigments are chlorophylls. There's nothing more cleansing and detoxifying than chlorophyll. And people who follow Western diets (high in processed foods and animal foods) are in desperate need of cleansing and detoxifying.

Chlorophylls release ions when struck by the energy of sunlight. These free ions proceed to stimulate the biochemical reactions that form proteins, vitamins and sugars.

It is believed that if chlorophyll is ingested with sufficient iron, the magnesium can be displaced to yield a hemoglobin molecule. Experiments in Japan and Russia have demonstrated that algae has a marked positive effect on leukemia and anemia, possibly due to the conversion of chlorophyll into hemoglobin. Of course, the high nutrient density of Spirulina alone, especially the blood-building vitamins B12 and folic acid and the amino acids, are also useful in treating cases of anemia.

Chlorophyll has other positive benefits to the body. It increases peristaltic action and thus relieves constipation, and also normalizes the secretion of digestive acids. It soothes the inflammation and reduces the excess pepsin secretion associated with gastric ulcers.

During World War II, the drying action of chlorophyll and its antiseptic qualities made it a common first-aid measure to prevent festering of wounds. In addition, chlorophyll soothes swelling and promotes granulation, the process that regenerates new tissue over injuries.

Chlorophyll appears to promote regeneration of damaged liver cells, and also increases circulation to all the organs by dilating blood vessels. In the heart, chlorophyll aids in transmission of nerve impulses that control contraction. The heart rate is slowed, yet each contraction is increased in power, thus improving the overall efficiency of cardiac work.

Here's something interesting: chlorophyll is known to help remove heavy metals from your body that have accumulated due to the ingestion of contaminated food products. Certain sea foods are especially known to contain dangerous levels of heavy metals like mercury, but these contaminants are also found in animal products and even non-organic crops. If you've been eating refined foods, you undoubtedly have mercury, cadmium, arsenic, lead, PCBs and other contaminants in your body. The chlorophyll in BAC actually helps remove those heavy metals from your body, which can have seemingly miraculous benefits to your health.

Another common source for contaminants is mercury fillings used by dentists. They call them "silver fillings," actually, since they don't want to openly admit they're still putting mercury -- one of the most potent nerve toxins on the planet -- into the mouths of patients. These mercury fillings emit a steady stream of mercury vapor that gets absorbed into your body. Frequently, small bits of these mercury fillings crack, break off, and are swallowed with your food. In this way, nearly all dental patients in America and other "civilized" countries are subjected to routine mercury poisoning at the hands of their dentists.

BAC can help protect you against this mercury by escorting the mercury out of your body before it can do damage. If you take BAC before and after receiving dental work, you will help protect yourself from the toxic effects of mercury fillings. This is especially important if you decide to have your mercury fillings removed, as more and more people are doing. The very process of drilling them out results in a tidal wave of mercury exposure in your body. Consuming BAC offers considerable protection against the mercury bits you inevitably swallow during this procedure.

For example, many people undergo full-scale mercury filling removal. It requires several sessions in the chair, and we recommend to use more BAC before and after each session. As a result, you will be much more protected from the ill effects of mercury removal.

Chlorophyll does much more than protect you from mercury, however an important one: it's also a general detoxifier that supports liver function so that your body can do a better job of eliminating toxins from your system.

[www.themagicisbac.com/page10-00.html](http://www.themagicisbac.com/page10-00.html)

## Cholesterol

The current conventional medicine's model for atherosclerosis (arterial plaque) remains that of putting blame on cholesterol, or excess LDL (low density lipoprotein) caused by oxidation of LDL as a result of a diet rich in saturated fats. The focus of prevention in conventional medicine is to use drugs. Drugs to reduce the LDL level on the blood, aspirin or Plavix to inhibit clotting and prevent heart attacks, and many more. The relationship to diet and exercise is usually a secondary and after the fact recommendation.

### **BAC awakens the genius within**

When the cells of the body receive the nutrients and the resulting energy that they need, they like good virtuoso will perform their multitude of cellular metabolic activity; growth, repair, cleansing, regeneration, including protecting itself, and much more. When each cell of the organ performs its job well, then the organ will have a fighting chance to perform its metabolic activities such as blood sugar regulation in the

good example that is the pancreas. But let's not forget that cellular and organ health functions are governed by the glandular level which itself is overseen by the "master gland", the hypothalamus located in the brain.

That BAC's nutrients efficiently nourish all the cells of the body including those cells of the hypothalamic region, there is no doubt. In the words of Dr. Michael Kiriak, it is in that sense, that BAC awakens the "genius" within. Several phytonutrients and pigments found in BAC like beta carotene, alpha carotene and astaxanthin have been proven in human clinical trials to penetrate the blood brain barrier and furthermore penetrate the blood iris barrier.

Read the full details on ["How BAC awakens the genius within"](#)

### **BAC and reduction of bad cholesterol**

In several studies with spirulina conducted with people and animals it was concluded that it did lower serum cholesterol and was likely to have a favorable effect on alleviating heart disease since the arteriosclerosis index improved. Benefits may be amongst other, through its effect on metabolism of lipoproteins.

[www.themagicisbac.com/page24-03.html](http://www.themagicisbac.com/page24-03.html)

## **ATP: The Energy Molecule**

This energy molecule is called adenosine triphosphate (ATP), the principal energy molecule in the human body.

ATP molecules are produced in the cells by the oxidation of carbohydrates, proteins and fats.

The energy carried by ATP molecules is used or stored depending on the needs of the body.

These processes are regulated by several factors including the efficiency of enzymes, the extent of enzyme inactivation by intracellular enzyme poisons and the metabolic needs of the cells at the time.

### **How does BAC positively affect the energy capsules?**

When tabulating the range of health results obtained in the Russian studies, it becomes obvious that all physiological metabolisms of the body are benefited when consuming BAC.

There is no doubt that BAC with its 5,000 nutrients does a magnificent job supporting a healthy cellular metabolism.

Furthermore, with its high content of green chlorophyll, nicknamed the "sheppard of light", because of its critical role in the photosynthesis process, BAC significantly contributes to the energy process that occurs in thousands of mitochondrion in trillion of cells of the body.

But BAC's greatest value, is its cerebral effect as brain food, in that it is extremely efficient at reaching the cells of the brain, resulting in the energetic awakening of the hypothalamus/pituitary cortex that is responsible for the balance (homeostasis) of all metabolisms of the body, including the critical ATP energy cycle that occurs in zillions of mitochondria.

### **Conclusion**

I am hoping that after reading the many benefits across the several species, that you will connect the dots and jump to the conclusion that "BAC being so good across all those species", it stands that it may be so good for human. And try it with your pets or animals too; they will be happy.

[www.themagicisbac.com/page30-00.html](http://www.themagicisbac.com/page30-00.html)