



OPTIMUM CHOICES, LLC
Healthy choices for people and pets

Bio-Algae Concentrates (BAC) and Viruses, Fungi, Parasites and Candida

(Russian research taken from www.TheMagicsBAC.com)

BAC's remarkable healing properties

Because its chlorophyll content is one of the highest of any food, Spirulina in BAC is useful for the many conditions which benefit from chlorophyll's energy, purification, renewal, and anti-inflammatory properties. Control of **viruses** and **fungi** which sap energy, such as **Candida**-overgrowth, **Epstein-Barr virus**, **chronic fatigue immune deficiency syndrome (CFIDS)**, and **AIDS**, is enhanced by the **immune-enhancing and antiviral qualities of chlorophyll**.

More immune system boosting agents: RNA / DNA

There's yet more natural healing agents in BAC as found in another immune-boosting element in Spirulina of BAC: nucleic acids, found in RNA and DNA. These nucleic acids are critical for health and longevity:

The nucleic acid in the human body (RNA/DNA) is responsible for directing **cellular renewal, growth, and repair**. The amount of nucleic acid in the body decreases with age; in fact, insufficient nucleic acid causes premature aging as well as weakened immunity. Nucleic acid is depleted by lack of exercise, stress, pollution, and poor diet. **Replenishing RNA/DNA is therefore important to every aspect of bodily health and longevity**. This particular aspect of RNA/DNA, which is measured by the controlled growth factor, **strengthens immunity** by improving the activity of T- and B-cells, which defend against viruses and other invading microorganisms, and macrophages, which **destroy cancer** and cellular debris in general.

When it comes to immune boosting function, BAC is the best there is. If you seriously want or need boosting your immune system function, then I suggest adding BAC to your diet.

(www.themagicisbac.com/page24-00.html)

The extraordinary health benefits of BAC

What can Bio-Algae Concentrates really do for your health? They offer a stunning array of health benefits. In fact, Bio-Algae Concentrates have been described as the best nutraceutical on earth!, "the perfect food"

Aside from being a complete protein and containing all the B vitamins, vitamin C, vitamin E, major minerals and mixed antioxidants (many in amounts large enough to be considered supplementary), Bio-Algae Concentrates have been found to rapidly improve the immune system, improve digestion, detoxify the body, accelerate healing, protect against radiation, aid in the prevention of degenerative diseases, help in treatment of **Candida albicans**, relieve **arthritis** pain and, because of its nutritional content, aid in the success of numerous **weight loss** programs.

www.themagicisbac.com/page6-00.html

One Disease – Cellular Disease

At this stage many metabolisms are dysfunctional or operate poorly; Krebs/ATP cycle, assimilation, absorption and elimination, protein synthesis, osmosis of oxygen and water (hypoxia and dehydration). There is chronic acidity and resulting acidosis; not only do you have incorrect pH levels, but because of inefficient flushing of cellular debris, you have accumulated acid ashes inside and between the cells. These conditions have led to infestations of **bacteria** and **parasites (fungus, yeast and Candida)**, to "bad" fats (high cholesterol) and lack of viscosity, to crystallization of fats and other unassimilated debris into plaque and arthritis. Your food / nutrients digestion and elimination have become deficient; you have lost your healing energy, and it's now a vicious cycle.

ONE HEALTH, CELLULAR HEALTH

How do you restore cellular health? The holistic approach to cellular health is to first realize that the doctor is the body itself. Each cell is geared to self heal. The doctor is within, not without. After all, this body built itself from one tiny cell and managed quite well without an "external doctor" usually for decades, defending itself from millions of viral attacks, free radical damage and constant pollutions from foods and air. Holistic health is gained at the cellular level. This view is supportive of "the doctor within" rather than interventionist. I call this approach "winning the war, not just the battle".

www.themagicisbac.com/page1-00.html

Viruses Blocked

BAC is an excellent source of phycocyanin (protein pigment in blue-green algae). It inhibits virus replication and intensifies the cellular and hormonal mechanism of the immune system, reducing the presence of viral diseases. BAC strengthens the immune system, improving the body's capacity to produce new blood cells and to regenerate liver and spinal cord cells.
(<http://www.themagicisbac.com/page35-00.html#Viruses%20Blocked>)

How BAC boost immunity

Immunity as it relates to human or animal health, is a state of having sufficient biological defenses to avoid infection, disease, or other unwanted biological invasion. Immunity involves both specific and non-specific components. Beside this generic definition of immunity, there are dozens of others that are either focused on particular functions related to viral defense, or defense against specific disease, etc.

I have chosen this "broader" definition as it fits with my holistic belief that each cell in the human or animal body carries its own immune protection system and when each cell is immunized, then the entire body is better protected.

Bio-Algae Concentrates exhibit impressive immune stimulating and boosting properties. As with the previously mentioned regenerative properties of this superfood, its immune boosting powers are likely due to a variety of nutritional and energetic factors that contribute to cellular vitality and immunity.

Let's examine a few of these one at a time:

BAC awakens the genius within

When the cells of the body receive the nutrients and the resulting energy that they need, they like good virtuosos will perform their multitude of cellular metabolic activities; 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's chlorophyll protection powers

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Read more on [Chlorophyll in BAC, the Sheppard of Light](#)

BAC's RNA / DNA's nucleic acids remarkable protection powers

There's yet more natural healing agents in BAC as found in another immune-boosting element in the algae of BAC: nucleic acids, found in RNA and DNA. These nucleic acids are critical for health and longevity:

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Replenishing RNA/DNA is therefore important to every aspect of bodily health and longevity. This particular aspect of RNA/DNA, which is measured by the controlled growth factor, **strengthens immunity** by improving the activity of T- and B-cells, which defend against viruses and other invading microorganisms, and macrophages, which **destroy cancer** and cellular debris in general.

Learn about [BAC's RNA / DNA's nucleic acids remarkable protection powers](#)

The photosynthetic life giving pigments content of BAC

BAC's red algae *haematococcus* and *dunaliella* contain high levels of nature's special pigments carotenoids and phycobilins. BAC contains astaxanthin, beta-carotene, alpha-carotene, lutein, lycopene, zeaxanthin, quercetin, beta cryptoxanthin and many other pigments that offer powerful immunity and toxin shield against continuous pollution, toxins and stress. The algae *haematococcus* in BAC is the highest source on earth of astaxanthin, a red pigment which is clinically proven to have hundreds of times more antioxidant power than vitamin E and vitamin C, and dozen of times more than that of beta carotene as found in carrots.

Read more on [The photosynthetic life giving pigments content of BAC](#)

An incredible arsenal of antioxidants in Bio-Algae Concentrates

While the protein, mineral and vitamin value of Bio-Algae Concentrates is impressive, these minute organisms are also rich in pigments that are bio-chemically important to life. Without pigments, organisms could not synthesize many of the enzymes necessary for balancing metabolism.

Bio-Algae Concentrates contains high level of enzymatic pigments and mixed carotenoids. In recent years, these pigments and carotenoids have received a tremendous amount of attention as potential anti-

cancer and anti-aging compounds. Carotenoids are powerful antioxidants, protecting the cells of the body from damage caused by free radicals. Carotenoids, and specifically beta-carotene and alpha-carotene, are also believed to enhance the function of the immune system.

Read more details on [An incredible arsenal of antioxidants in BAC](#)

BAC contains high level of astaxanthin, the star of antioxidants

Astaxanthin is a pigment of the carotenoid complex found in the microalgae *Haematococcus pluvialis* and *Dunaliella salina* present in BAC. It is an oxygenated pigment called a xanthophyll. Its unique molecular structure gives it a superior antioxidant and immune system boosting capacity.

Astaxanthin is 40 times more effective as an antioxidant than beta-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 beta-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.

Read more at: [BAC contains high level of astaxanthin, the star of carotenoid](#)

Phycocyanin in BAC enhances the immune system

One unusual phytonutrient with an important quantity in algae of BAC, is the natural blue protein pigment, called phycocyanin. This is the pigment which gives blue-green algae its blue cast. It may be found in concentrations as high as 7 percent in certain blue-green algae, as compared to 1 percent chlorophyll content most commonly found.

Because of this high content of phycocyanin, as a natural substance with an immune system boosting or anti-cancer effect, there is much research using algae. As such phycocyanin may be active in preventing a host of degenerative organ diseases by increasing immunity.

A Japanese patent states that a small dosage of phycocyanin daily maintains or accelerates normal control cell functions that prevents generation of malignancy such as cancer or inhibits its growth or recurrence.

Chinese scientists documented that phycocyanin stimulates hematopoiesis (creation of blood), emulating the hormone erythropoietin (EPO). EPO is produced by healthy kidneys and regulates bone marrow stem cell production of red blood cells. They claim phycocyanin regulated white blood cell production, even when bone marrow stem cells are damaged by toxic chemicals or radiation.

(www.themagicisbac.com/page22-00.html)

Phycocyanin in BAC enhances the immune system

One unusual phytonutrient in blue-green algae such as *Spirulina* in BAC, is the natural blue protein pigment, called phycocyanin. This is the pigment which gives blue-green algae its blue cast. It may be found in concentrations as high as 7 percent in certain blue-green algae, as compared to 1 percent chlorophyll content most commonly found. Phycocyanin is related to the human pigment bilirubin, which is important to healthy liver function and digestion of amino acids.

Part of the global effort to identify natural substances with an immune system boosting or anti-cancer effect focuses on algae because of its important quantity of phycocyanin.

In a study in Japan, phycocyanin was given orally to mice with liver cancer. The survival rate of the treatment group was significantly higher than the control group not given phycocyanin. After five weeks, 90% of the phycocyanin group survived, but only 25% of the control group. After eight weeks, 25% of the phycocyanin group still survived, yet none of the control group was alive. This suggests eating phycocyanin may increase survival of cancer stricken organisms. In another study, after two weeks the white blood cells (lymphocyte activity) of a phycocyanin group were higher than the control group and higher than or equal to a normal group without cancer. This suggests phycocyanin raises lymphocyte activity.¹

The lymph system's general function is to maintain healthy organs in the body, and protect against cancer, ulcers, bleeding piles and other diseases. These results suggest phycocyanin acts not by a limited attack on local cancer, but by strengthening the body's resistance through the lymph system. Phycocyanin may be active in preventing a host of degenerative organ diseases by increasing immunity.

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1. Iijima, N., Shimamatsu, H., et al. (inventors; Dainippon Ink x Chemicals assignee). Anti-tumor agent and method of treatment therewith. US patent pending, ref. P1150-726-A82679, App. 15 Sep. 1982.
2. Dainippon Ink x Chemicals and Tokyo Kenkyukai (inventors and assignee). Anti-tumoral agents containing phycobilin- also used to treat ulcers and hemorrhoidal bleeding. 1983, JP 58065216 A 830418.
3. Zhang Cheng-Wu, et. al. Effects of polysaccharide and phycocyanin from spirulina on peripheral blood and hematopoietic system of bone marrow in mice. Second Asia-Pacific Conf. Ibid, April, 1994.

Algae in **Bio-Algae Concentrates** have a high and naturally occurring phycocyanin content. This means that with a regular intake of BAC, you would not need to consume a isolated supplement for this essential and rare phytonutrient.

www.themagicisbac.com/page10-01-05.html

Chlorophyll, the Sheppard of Light in BAC

Because of its high chlorophyll content (higher than most foods), BAC is useful for the many conditions which benefit from chlorophyll's energy giving, purification, renewal, and anti-inflammatory properties. Control of viruses and fungi which sap energy, such as Candida-overgrowth, Epstein-Barr virus, chronic fatigue immune deficiency syndrome (CFIDS), and AIDS, is enhanced by the **immune-enhancing and antiviral qualities of chlorophyll**.

www.themagicisbac.com/page10-00.html

BAC and HIV

The August 2006 International AIDS Conference in Toronto, boasted of progress in the fight against AIDS, when really, the fight against AIDS, just like the fight against cancers are billion dollars sinkhole. Let me rephrase by adding "the way that they are fought by most of the organizations involved". The boasting did motivate me enough to relate the "handful of dollars" story of Daniel and his successful "fight against AIDS".

In February 2004, Nita D. a Boulder MD and holistic practitioner reported to me Daniel's case and suggested we followed his progress together. Daniel had been diagnosed HIV positive several years earlier and was seeing his condition worsening alarmingly. His regular MD was suggesting medications. That is when Daniel decided to look for an alternative solution and met Dr. Nita. Following her

recommendations to use BAC and to change his eating habits, Daniel saw his viral load dropped significantly in a few weeks. Daniel has been sending me copies of his lab report each time he gets it done. Let me show you a perspective of continued progress here starting with his own words:

"I am HIV positive. I just got my latest lab work back and it's great! My viral load is stable at about 10,000 (the nurse practitioner said she was very surprised just how stable that it is), and my T-cells are up! To over 400. That's the highest they've been in over a year. If you will recall, exactly one year ago my viral load was at 139,000 and the T-cells barely over 250, prompting the docs to want to start me on meds. But then I started the BSF.

I am especially impressed with the numbers because since October, when I returned from Brazil, I've been dealing with some very difficult emotions like grief, sadness, and some depression. There has been a lot of stress as I've tried to find a job (still looking). Also, I haven't been very strict nutritionally as that has been difficult as well. Given these factors, I'm so thrilled that my numbers are so good. It gives me new energy and motivation to eat right, and continue trying to make good lifestyle choices. But I think if it weren't for the bio-algae concentrates, the picture would look very different right now. Thank you!

- D.R.R., Colorado USA - February 2005."

UPDATE - February 2006 - Daniel wrote again in February following a visit to his regular MD for lab works (his results were showing viral load at 17,000 and CD4 at 447):

"I just received my result from my regular MD. He says (Dan, numbers look good. Get the test done again in 3 months)"

UPDATE - May 2006 - Following another test, Daniel sent this note on May 5, 2006.

"My latest results show a drop in viral load to just over 5,000. My CD4s are stable at about 414. Interestingly, my numbers continue to look good despite huge amounts of stress at my work. Additionally, my relationship broke up 3 months ago which has also been very difficult emotionally and psychologically. But I continue to take the BAC and the numbers are either stable or have actually improved"

What does all this mean for Daniel?

First, let's look at what does the test result mean? Viral load tests are reported as the number of HIV copies in a milliliter of blood. If the viral load measurement is high, it indicates that HIV is reproducing and that the disease will likely progress faster than if the viral load is low. A high viral load can be anywhere from 5,000 to 10,000 copies and can range as high as one million or more. A low viral load is usually between 200 to 500 copies, depending on the type of test used. This result indicates that HIV is not actively reproducing and that the risk of disease progression is low. A viral load result that reads "undetectable" does not mean that you are cured. It may mean that the level of HIV virus in your blood is below the threshold needed for detection by this test. Early viral load results from two large studies have recently been released. These studies found that the viral load test was a very good marker of disease progression. In these studies of around 1,700 people, viral load was better than CD4 cell counts at showing whether someone might be at risk for getting sicker.

Daniel so far has managed to reduce or stopped the progression of the disease, this without medications and their nasty side effects, long term damages and with just a few capsules of BAC per day along with easy changes to his diet. As commented by Daniel, he is doing well even if he has not been "perfect" in his diet and has been under a lot of stress.

How does BAC help with HIV?

Let me set the record straight. **A)** It would be unfair to Daniel and to natural health to claim that BAC is a remedy for HIV. It would ignore Daniel's "self healing power" and the power of "Let thy food be thy medicine". It would remove Daniel's responsibility to stop eating "badly", to eat well, exercise, rest and

sleep well. Applying these few simple disciplines alone will reduce his viral load. **B)** BAC is not a remedy for HIV nor for any of specific "disease" such as diabetes, Alzheimer's, fibromyalgia, etc.

So, how does BAC help more than broccoli and parsley?

BAC is pure food, the raw materials that the body needs for energy, growth, repair, protection and self healing from ALL diseases or conditions. Rather than re-explain BAC and the potential of its ingredients and mechanism of actions specific to **HIV**, let me remind you that the proper use of BAC will deliver via nutritional support similar health protection and healing results in all viral conditions like herpes, hepatitis A, B and C, West Nile virus, etc., and all of the thousands of "named" diseases, and that for anyone consuming it.

On the other hand, I want to invite you to read the section on [Anti-Viral research](#), on [BAC and immune system](#), and on [BAC awakens the genius within](#) so that you understand the relationship between BAC's extraordinary nutritional power and efficiency and the body's innate capacity to health.

(www.themagicisbac.com/page50-00.html)

The ingredients in BAC!

BAC contains per gram more naturally occurring calcium than cow's milk with high bioavailability and zero toxicity. BAC also contain calcium spirulan, a form of calcium that has extraordinary properties. In studies, calcium spirulan is shown to **inhibits HIV** at very low concentrations by preventing the virus from penetrating the human cell membrane and infecting the cell. In that sense, calcium spirulan is an antioxidant.

(<http://www.themagicisbac.com/page4-10.html>)

The above is purely research. These statements have not been evaluated by the FDA. This information is not intended to diagnose, treat, prevent or cure any disease.

(The original of this document is a PDF file. All the [underlined blue words](#) are hyperlinks back to their referenced web pages. E-mail us for a PDF copy with live hyperlinks.)