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*Healthy choices for people and pets*

## **BAC and its Gamma Linolenic Acid (GLA) stimulates master hormones**

(Russian research taken from [www.themagicisbac.com/page9-01.html](http://www.themagicisbac.com/page9-01.html))

Perhaps you've heard of GLA (gamma-linoleic acid) and DHA (docosahexaenoic acid). Human breast milk is high in GLA, probably due to the infant child's need for brain-building fats. And since many infants never gained the important nutritional benefits of their mothers' milk, they've been GLA-deficient for their entire lives. The American diet of processed foods contains virtually no GLA. And low-carb dieters aren't getting any either, unless they specifically supplement it.

GLA is the second fatty acid in the omega-6 family. It has 18 carbons and three double bonds (with the first double bond positioned six carbons from the end). The third fatty acid in the omega-6 family is dihomo-gamma-linolenic acid (DGLA) with 20 carbons and three double bonds. Next comes arachidonic acid (AA) with 20 carbons and 4 double bonds. The Series 1 prostaglandins are made out of DGLA and the Series 2 prostaglandins are made out of AA. Thus, GLA is an important transition product for the production of these prostaglandins.

GLA as occurring in Bio-Algae Concentrates exhibit impressive immune stimulating and boosting properties. GLA is not only known for regulating blood sugar and providing important nutrients to the brain; it also exhibits immune-boosting properties. In fact, according to Dr. Hass, author of **Staying Health With Nutrition**, GLA has been shown to be effective for the following health conditions:

- Cardiovascular disease—**anti-inflammatory effect; reducing platelet aggregation**, thereby **reducing clotting; lowering blood pressure** by decreasing vessel tone; **cholesterol-lowering effect.**
- **Arthritis (rheumatoid arthritis** and other inflammatory disorders) - anti-inflammatory effect; **immune support**; correcting possible EFA and GLA deficiency.
- **Skin disorders (eczema, acne, dermatitis)**—anti-inflammatory effect; EFA functions; immune support.
- **Allergies, asthma - anti-inflammatory effect**; EFA function; immune support.
- **Multiple sclerosis**—nerve conduction; correction of possible EFA and GLA deficiency; immune support; decreased platelet aggregation; balancing prostaglandins.

Essentially, GLA helps support the immune system through a variety of mechanisms, and its benefits go far beyond mere immune system function. Many studies on the health effects of GLA have been conducted, and they show stunning results for this beneficial nutrient. In fact, in the

1980s, GLA was studied more intensively than any other nutrient: About 200 clinical trials took place in university hospitals and medical schools throughout the world. One of these researcher, Dr. Horrobin states “that his studies have led him to believe that a lack of essential fatty acids could turn out to be **one of the most common defects in human biochemistry and a significant factor in many diseases**”. Essential fatty acids are especially important in the function of nerve, muscle, and **immune systems**, for when people lack the proper balance, the neurological, endocrine, and immune systems are shown to be adversely affected.

GLA has proven to be effective in the treatment of many serious diseases. Double-blind, placebo-controlled studies for atopic eczema demonstrate that GLA improves skin conditions, relieves itching, and reduces the amount of steroid medication required. In a large, placebo-controlled trial at Bristol University in England, both adults and children showed substantial improvements. In clinical trials for diabetes, **GLA has reversed neurological damage** and lowered plasma cholesterol and triglycerides. GLA has also been shown to be beneficial in the treatment of Sjogren’s Syndrome.

—*Innocent Casualties: The FDA’s War Against Humanity* by Elaine Feuer

It is important to point out, however, that many of the studies conducted on GLA used evening primrose oil as their source for this essential fatty acid. GLA from evening primrose oil is an isolated nutrient in a high concentration. Since Bio-Algae Concentrates is a whole food containing a full spectrum of proteins, minerals, vitamins, fatty acids, and other nutrients, its GLA occurring with other EFA and other co-dependant nutrients will be significantly more nutritionally functional and beneficial to overall health.

The richest whole-food sources of GLA are mother’s milk, spirulina micro-algae, and the seeds of borage, black currant, and evening primrose. GLA is important for growth and development, and is found most abundantly in mother's milk; spirulina (as contained in BAC) **is the next-highest whole-food source**. We often recommend it for people who were never breast-fed, in order to foster the hormonal and mental development that may never have occurred because of lack of proper nutrition in infancy. (A standard 10 grams dosage of spirulina contains a good daily source of GLA)

—*On Spirulina in Healing With Whole Foods* by Paul Pitchford

Foods high in saturated fats, typical of the American diet, may block the beneficial work of essential fatty acids in the human body, leading to many disease conditions.

Gamma linolenic acid (GLA), an essential fatty acid, is a precursor for the body’s prostaglandins, master hormones that control many body functions. The prostaglandin PGE1 is involved in many tasks including regulation of blood pressure, cholesterol synthesis, inflammation and cell proliferation. PGE1 is usually formed from dietary linolenic acid, and the GLA progresses to PGE1.<sup>1</sup> Dietary saturated fats and alcohol and other factors may inhibit this process, resulting in GLA deficiency and suppressed PGE1 formation.<sup>2</sup>

Numerous studies have shown GLA deficiency may figure in degenerative diseases and other health problems. Clinical studies show dietary intake of GLA can help arthritis,<sup>3</sup> heart disease<sup>4</sup>, obesity <sup>5</sup>, and zinc deficiency. <sup>6</sup> Alcoholism, manic-depression, aging symptoms and schizophrenia also have been ascribed partially to GLA deficiency.<sup>7</sup> A source of dietary GLA

may help conditions of heart disease, premenstrual stress, obesity, arthritis and alcoholism.<sup>8</sup> In Spain, the GLA in Spirulina and evening primrose oil is prescribed for treatment of various chronic health problems.<sup>9</sup>

The few known sources of GLA include the plant seed oils of evening primrose plant, black currant and borage seeds, fungal oils, certain algae and human milk.

But you can also get it from BAC every day of your life! A few grams of BAC contain at least 100 mg of EFA. This is well documented. 10,11,12. That is about 5% essential fatty acids with 20% of it as GLA.

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