



Antioxidants and Immunity...

GNLD's Antioxidants include the following products :

- Carotenoid Complex, 90 capsules
- Flavonoid Complex, 60 Tablets
- Cruciferous compounds, 60 tablets
- **The above three are also available in 1 x PhytoDefence Pack x 30 sachets each containing 3 x Carotenoids, 2 x Flavonoids and 1 Cruciferous.....30 sachets**
- VA, VC, VE,
- Beta-Guard for Adults and Vita-guard for children contain a complex of antioxidants such as Beta Carotene VC, VE, zinc, selenium, chromium, VB3, VB6, Betaguard 100 tablets

PhytoDefence delivers the broad phytonutrient protection of six optimal servings of fruits and vegetables in one convenient pack.

Each **PhytoDefence** pack contains GNLD's exclusive, patented Carotenoid Complex™, which delivers antioxidant protection from free radical damage for the lipid portions of cells; Flavonoid Complex™ to help protect the watery portions inside and around cells; and Cruciferous Plus™ which provides nutrients that work with naturally-occurring hormones and enzymes to promote good health.

General Information...

The most powerful health enhancers in food, antioxidants prevent disease, boost the immune system and even slow the ageing process. They attack the process of oxidation, the culprit behind many, if not most, of today's diseases, including cancer and heart disease. Oxidation causes cells, tissues and organs to break down or decay. It harms your immune system by interfering with the delicate communication technology of the cell. Scar tissue is formed at sensitive locations throughout your body, including your skin, arteries, eyes and brain. This damaged tissue works against rather than for you, causing wrinkles around your eyes, cataracts, and in your brain, Alzheimer's or Parkinson's diseases. Oxidation in your bloodstream forms cholesterol plaque in the arteries that can lead to heart attacks and strokes, or inflammation in your joints and deformities in your bones, resulting in arthritis. Most dangerous of all, oxidation can break down your cells DNA and cause cancer. The villains in the oxidation process are single molecules, called free radicals, which cause cellular havoc as they race around your system.

Many are formed around your system. Many are formed during the normal course of events in your body (normal metabolic processes), but most of the oxidants that attack your cells come from poisons you take into your body. Many pollutants and toxins are known to depress the immune system, which may result in illness. Most are avoidable, so minimize your exposure to them where possible. These include: -

1. These toxins include Pharmaceutical drugs.
2. Alcohol and tobacco smoke.
3. Dietary fat, cholesterol.
4. Chemical pollutants.
5. Environmental toxins (for example, herbicides, used on food crops, car exhaust fumes and acid rain),
6. Radiation (including X-rays, excessive UV light).



7. Some heavy metals (Like Aluminium and Mercury).

Antioxidants mop up the free radicals, thus slowing down and in many cases, stopping the oxidation process. Scientists believe this may halve the incidence of common diseases and even help with Aids.

Carotenoids

NUTRITIONAL INFORMATION

Supplement Facts		
Serving 3 Capsules		
Servings Per Container 30		
Amount Per Serving	% Daily Value	
Calories	18	
Calories from Fat	13	
Total Fat	1.5 g	2%*
Protein	1 g	2%*
Vitamin A (as Alpha and Beta Carotene)	7500 IU	150%
Vitamin E (as d-Alpha-Tocopherol)	18 IU	60%
Lycopene	1200 mcg †	
Lutein / Zeaxanthin	410 mcg †	
Carotenoid Complex™ Blend	900 mg †	
Carrot oleoresin (Daucus carota) (root);		
Red Bell Pepper oleoresin (Capsium frutescens) (fruit);		
Tomato oleoresin (Lycopersicon esculentum) (fruit);		
Spinach oleoresin (Spinacia oleracea) (leaves);		
Apricot concentrate (Prunus armeniacea) (fruit);		
Strawberry concentrate (Fragaria vesca) (fruit);		
Peach concentrate (Prunus persica) (fruit).		
*		
Percent Daily values are based on 2,000 calorie diet.		
† Daily Values not established		

INSTRUCTIONS

SUGGESTED USE: 1 to 3 capsules daily.

FAQS

Q. What is the total carotenoid profile of Carotenoid Complex?

A. Carotenoid Complex contains 15 powerful carotenoid family members. Our unique formula has been tested and shown to deliver alpha-, beta-, cis-beta-, gamma-, and zeta-carotene, lycopene, cis-lycopene, lutein, zeaxanthin, alpha- and beta-cryptoxanthin, violaxanthin, canthaxanthin, capsanthin, and cryptocapsin.



Q. Why do I need a carotenoid supplement?

A. If you don't eat the recommended 5-9 servings of fruits and vegetables every day, chances are you are not getting the recommended amount of carotenoids in your daily diet. Most people only get 2-3 servings of fruits and vegetables daily and most of the top ten fruits and vegetables are poor sources of carotenoids. Plus, even those that do eat the recommended amounts of fruits and vegetables every day are not getting the amount of carotenoids found in a serving of Carotenoid Complex.

Q. What is the difference between killer T-cells and natural killer cells? Which is cited in the USDA study using Carotenoid Complex?

A. In the Carotenoid Complex study conducted by researchers from the USDA, natural killer cells and lymphocyte proliferation (or T-cell proliferation) were the two measures used to gauge changes in subjects' immune potential. Lymphocyte proliferation response is how quickly, and many, lymphocytes (T-cells) are produced once an invader is detected. Think of it as an army responding to attack. The amount of "soldiers" you get to the point of attack is prolific response.

T-cell proliferation is a measure of immune response effectiveness. T-cells coordinate immune defence and kill invaders on contact. Once the T-cells recognize an antigen, they are activated and rapidly multiply. They release lymphokines, which in turn activate more T-cells and B cells and direct them to the battle.

Natural killer (NK) cells are a specialized type of immune cell found in the spleen, lymph nodes, bone marrow and blood that destroy abnormal cells such as virally infected cells, cancer cells and tumour cells. The NK cells do not proliferate in response to an antigen, as do the T-cells, nor are they increased by immunization. Natural killer cells are the first line of defence against cancer!

Q. Isn't it less expensive to eat whole foods?

A. If you compare the cost and time involved in travelling to the supermarket, purchasing food, and the preparation involved, the cost of Carotenoid Complex is inexpensive. Of course, we urge everyone to eat the recommended servings of fruits and vegetables every day. But, for those who don't, supplements can help you to bridge the gap between what you eat and what you really should eat.

Q. Can I get enough carotenoids from my diet alone?

A. If you want the best antioxidant protection for your body, it would be extremely difficult to eat enough fruits and vegetables. GNLD stresses that it is vital that you consume a diet that is rich in fruits and vegetables, but we also know that most of the fruits and vegetables that we do eat, like bananas and potatoes, are not good sources of carotenoids. In addition, the bioavailability of carotenoids in uncooked fruits and vegetables is extremely poor. Raw carrots are only about 5-10% bioavailable in their carotenoid content. In comparison, the carotenoids in Carotenoid Complex are up to 95% bioavailable.



Q. How is Carotenoid Complex different than dunaliella salina?

A. When you compare dunaliella salina supplements against Carotenoid Complex, dunaliella salina always come up short! Dunaliella salina, sourced from algae, is not normally in the human food chain, and delivers the carotenoids found only in that one source.

On the other hand, GNLD's Carotenoid Complex is a far superior carotenoid supplement than a pure dunaliella salina product for three main reasons. First, Carotenoid Complex delivers an exclusive blend of carotenoid-rich extracts and concentrates from tomatoes, carrots, spinach, red bell pepper, strawberries, apricots and peaches, foods in the human food chain. Secondly, each capsule provides the phytonutrient value of an optimal serving of a wide variety of carotenoid-rich fruits and vegetables. In fact, a three capsule serving delivers 1/3 of the amount of the recommended dietary intake of 9 servings of fruits and vegetables a day! Lastly, Carotenoid Complex has been tested by USDA researchers and shown to:

- Boost immune cells 37% in just 20 days.
- Curb oxidation damage to cells by 44%.
- Increase natural killer cells by 20%. (Natural killer cells are our first line of defence against cancer.)
- Help protect against heart disease.

With those kinds of advantages, Carotenoid Complex is the smarter choice for carotenoid supplementation, hands down!

Q. Are GMO's present in any of the fruits and vegetables used in Carotenoid Complex?

A. GMO's, or genetically modified organisms caught our attention way back in the 1980's. As we delved into the science and technology that was developing behind the scenes we quickly came to the conclusion that genetic manipulation of life's blueprint DNA was a very risky enterprise. It was not without it's promise, but it was truly a doubled edged sword with the potential for both dramatic benefit and catastrophic risk. On the one hand it offers the opportunity to "feed the starving masses" by creating new forms of certain crop plants that would grow where they previously wouldn't, or produce hugely greater yields, or provide previously missing nutrients deficient in certain populations. On the other hand it held the potential to create virulent "monster" plants or animals that would displace their "weaker" natural cousins, reek havoc on the local flora and fauna where they are planted or farmed and ultimately force the natural form into extinction.

Of particular concern to the SAB was the idea of "transgenic" modification of DNA. This is the process of mixing genetic material not just from different species, but from different life forms. Plants were being given genes not just from other plants, but from bacteria, insects and animals. And the reverse was true. DNA was being mixed and manipulated in a way that was absolutely contradictory to the rules of nature and the



separation of life forms and species.

It didn't take us long to recognize that this was not something we wanted in our products. Thus, years ago we made the decisions that would make sure that would not occur. We set new raw material standards that demanded all ingredients of plant or animal origin be free from genetic modification. We demanded that our suppliers confirm that the materials they provided us complied with that standard. And then we established the means to confirm that was so.

Today, you can confidently use GNLD products, including Carotenoid Complex, and know that they **do not contain any genetically modified DNA**, of any form or source. That all of the genetic materials they contain are the natural genetic materials Nature put there.

Q. Are there pesticides in Carotenoid Complex?

A. There are no pesticides in any of our products, including Carotenoid Complex. Our stringent Quality Control procedures guarantee that our products are pesticide- and contamination-free. Our testing protocols follow the American Organization of Analytical Chemists. The pesticide screen is conducted routinely by outside laboratories to confirm that our products are pesticide-free.

Q. Some people may be concerned about the amount of provitamin A that is in Carotenoid Complex because of the toxicity issue surrounding vitamin A. Can we assure these people this does not apply to provitamin A?

A. GNLD's Carotenoid Complex provides a variety of carotenoid "family members" as they naturally occur in human food chain fruits and vegetables. Not all of these carotenoids provide provitamin A activity. However, there is no need to fear those that do, as provitamin A is only a precursor to vitamin A, and not vitamin A itself. This means that provitamin A is converted by the body to vitamin A only as needed. If the body has an adequate supply of vitamin A, provitamin A will not be converted by the body to vitamin A, therefore there is no toxicity associated with provitamin A at any level.

Q. Is it safe?

A. Carotenoid Complex is as safe as eating a serving of fresh fruits and vegetables. It is 100% natural and contains no artificial preservatives or sweeteners, plus it's 100% pesticide-free.

Q. How does Carotenoid Complex compare to other "carotenoid" supplements?

A. There really is no comparison! Carotenoid Complex is so unique, it's patented. It is the only completely whole-food sourced Carotenoid supplement on the market. Other products use a combination of synthetic beta-carotene and/or Carotenoids from non-food sources such as marigolds and algae. Carotenoid Complex is based on "Nature's Blueprint" and provides Carotenoids from sources that are part of the human food



chain, just as nature intended you to have them.

What Carotenoid Complex can do for you.

- Lipid-soluble antioxidants, Carotenoids are a natural source of red, yellow and orange pigments in many fruits and vegetables. Many provide vitamin A Activity.
- Classified by their chemical structure - carotenes (e.g. alpha, beta, gamma, and zeta-carotene), xanthophylls (e.g. Lutein, lycopene, cryptoxanthin and zeaxanthin). There are more than 600 known carotenes.
- Approximately 3 servings a day: apricots, broccoli, butternut, pumpkin, rock-melon, paw-paw, peaches, pink grapefruit, red capsicum, spinach, strawberries, sweet potatoes, Swiss chard, tomatoes.
- Research suggests that diets with high levels of Carotenoids may offer several health benefits such as reduced risk of some cancers, reduced risk of heart disease and cataracts, enhanced immune function.
- Provides antioxidant protection from the free-radical damage for the lipid (fat) portions of the cells and tissues. Carotenoids are most effective when consumed as families, referred to as ASuper Antioxidants≡ the Carotenoids are the most potent antioxidants yet discovered. Works alongside vitamin A and E in protecting the fat portion of the cell against free radical damage.
- Experts say eat 5-9 daily servings of fruit and vegetables a day to receive a rich source of protective Carotenoids. (This does not include bananas, potatoes and apples, as they do not contain Carotenoids. 6 mg of Carotenoids needed per day. Current eating habits are estimated to provide 1,5 mg per day.
- USDA CAROTENOID COMPLEX STUDY PUBLISHED in the “The American Journal of Nutrition” – March 1997 Volume 65 Number 3.
- Carotenoid Complex increased the immune capacity known as “Lymphocyte Proliferative Response” by 37% in just 20 days compared to Beta Carotene alone. It is this aspect of our immune systems that keeps us healthy from day to day, and fights off bacteria, viruses and other health challenges. (United States Government Study).
- Carotenoid Complex increased the immune capacity know as “Natural Killer Cells” by more than 20% in just 20 days. Natural killer cells are known as our body’s first line of immunologic defense against cancer.

Carotenoid Complex has been tested by USDA researchers and shown to:

- ◆ Boost immune cells 37% in just 20 days.
- ◆ Curb oxidation damage to cells by 44%.
- ◆ Increase natural killer cells by 20%. (Natural killer cells are our first line of defense against cancer.)
- ◆ Help protect against heart disease.



RESEARCH

Studies conducted by USDA researchers suggest that a carotenoid-deficient diet compromises immune power and that the broad spectrum of carotenoids in Daily Carotenoid Complex could enhance the immune response of otherwise healthy people.

Daily Carotenoid Complex has been shown to:

- Dramatically enhance both immune cell levels and overall immune cell responsiveness.
- Boost levels of lymphocytes which are the body's first immunologic line of defense against disease.
- Increase natural killer cell levels by more than 21% above baseline values in just 20 days: more than twice the effect of beta-carotene alone!
- Reclaim lost immune power and boost overall immune capacity by 37% in just 20 days.* (Supplementation with beta-carotene alone did not provide this benefit).
- Highly bioavailable: the ingredients in Carotenoid Complex are absorbed and utilized by the body.

*NOTE: measured as an increase in overall lymphocyte proliferation, a recognized standard for measuring immune competence and capacity to respond to an immune challenge.

USDA RESEARCHER'S REPORT:

[Kramer TR; Burri BJ](#)

[American Journal of Clinical Nutrition](#)

[Get full study \(PDF, 4MB\)](#)

SAB RESEARCHER'S REPORT:

[Carughi, A & Hooper F](#)

[American Journal of Clinical Nutrition](#)

[Get full study \(PDF, 6.6MB\)](#)



Flavonoids

What they can do for you

- Water-soluble antioxidants, Flavonoids are a natural source of blues, purples, emerald greens and some reds and yellows in many fruits and vegetables.
- Polyphenols - broken into five classes according to chemical structure:
 - Flavones, flavanones, catechins, flavanols, anthocyanins.
- There are more than 4000 known Flavonoids. Ellagic acid closely related to Flavonoids.
- Research suggests that diets with high levels of Flavonoids may offer several health benefits such as reduced risk of some cancers and heart disease and enhanced immune function and anti-inflammatory action.
- Approximately 2 servings per day - apples, beets, berries, cherries, endive, French beans, grapefruit, grape juice, green tea, kale, leeks, lemons, oranges, parsley, pears, red onions, red wine.
- Antioxidant protection from free radical damage for the watery portions of both the inside and outside of cells and tissues. Flavonoids are most effective when consumed as families.
- Flavonoid Complex is scientifically proven to slow the spread of cancer by 90%

Cruciferous Nutrients

What they can do for you.

- Lipid and water-soluble health protecting nutrients from cruciferous vegetables characterised by a pungent, biting taste.
- All contain glucosinolates, the cause of the pungent taste. Two principle groups are:
 - Indole Cabinols, Isothiocyanates, (e.g. Sulforaphane).
- Approximately 1 serving a day - bok choy (Chinese cabbage), broccoli, brusselsprouts, cabbage, calabrese, collard greens, horseradish, kale, kohlrabi, mustard, mustard greens, radish, rutabaga, turnips, turnip greens, watercress.
- Research suggests that diets with high levels of cruciferous compounds may offer several health benefits like preventing hormonal mediated and other cancers, including: breast, prostate, digestive tract, uterine lining, colon and lung cancer.
- It is likely that cruciferous vegetables and related plants help because they - stimulate enzymes that neutralise problem compounds, detoxify carcinogens and flush them from the body. They prevent the conversion of Agood \rightleftharpoons oestrogen to Abad \rightleftharpoons oestrogen. (Correlated with lower risk of breast cancer). Neutralise toxins and prevent chemicals from becoming active carcinogens. Block interaction of carcinogens with DNA.
- Closely related Phytonutrients - D-Limonene, a citrus terpene from oranges, chalcones from liquorice root, and isoflavones from soybean have similar activity as cruciferous nutrients.
- A study presented at the Experimental Biology meeting in New Orleans in Louisiana concluded that exclusive blend of extracts from Cruciferous vegetables found in Cruciferous Plus can inhibit the growth of breast cancer cells by more than 37%.
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Betaguard

PRODUCT DESCRIPTION

The increasing presence of toxic chemicals in our environment increases the risk of life-threatening illness. GNLD's Betaguard offers nutritional protection. Its synergistic blend of antioxidant and detoxifying nutrients helps the body neutralize and metabolize toxic materials.

PRODUCT BENEFITS

Vitamins A, C, E, riboflavin and niacin plus selenium support broad antioxidant activity. Vitamins B6, A, E and niacin, as well as chromium, zinc and magnesium, assist immune functions, and aid natural detoxifying processes.*

Formulated by Dr. Arthur Furst, world- renowned toxicologist and eminent researcher into the processes of healthy cellular growth.

Unique synergistic formula helps guard your health in a world of environmental and free radical challenges.

With the antioxidant vitamins A (from beta- carotene and other carotenoids from a natural carrot source), C, and E, to trap free radical oxygen and protect cells.*

Delivers B-vitamins that assist in detoxifying environmental pollutants.*

Includes zinc, GTF chromium and selenium, which have been shown to play an important role in the body's response to heavy metal exposure.*

*This statement has not been approved by the Food and Drug Administration. This product is not intended to diagnose, treat, cure or prevent any disease.

NUTRITIONAL INFORMATION



Supplement Facts

Serving Size 3 Tablets
 Servings Per Container 30

Amount Per Serving		% Daily Value
Vitamin A (as beta-carotene from carrot oleoresin (Daucus carota (root)))	7,500 IU	150%
Vitamin C (as ascorbic acid)	24 mg	40%
Vitamin E (as d-alpha tocopherol)	25 IU	83%
Riboflavin (as riboflavin and from yeast)	0.6 mg	35%
Niacin (as niacinamide)	8 mg	40%
Vitamin B6 (as pyridoxine hydrochloride and from yeast)	15 mg	750%
Iodine (from kelp)	60 mcg	40%
Magnesium (chelated)	100 mg	25%
Zinc (chelated)	10 mg	66%
Selenium (from yeast)	100 mcg	143%
Chromium (from GTF yeast)	50 mcg	42%
Lemon pectin	9 mg	†
Mixed non-alpha tocopherol	6.5 mg	†

† Daily Values not established

INSTRUCTIONS

SUGGESTED USE: 3 tablets daily.

