



The story of a  
**Natural Health  
Breakthrough**

# *Synergy* 12

**Paul Kramer**  
Foreword by Dr. Indrajit Sinha, Ph.D



### *about* **Paul Kramer**

Paul Kramer has more than 30 years of experience in nutritional product development, Network Marketing and corporate management. Paul is the author of the best-selling book, *Fighting Body Pollution*, available in eight languages worldwide. As a Nutritional Consultant, Paul is recognized as an expert in the health and wellness industry.

Paul has conducted health and wellness seminars around the world educating individuals to live a healthier lifestyle. He is a graduate of the Advanced Holistic Nutrition program from the Canadian Nutrition Institute and currently represents Lifestyles as a member of the United States Direct Sales Association.



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### *about* **Dr. Indrajit Sinha, Ph.D**

Dr. Indrajit Sinha, Ph.D. is an accomplished scientist. His work has been published in over forty peer-reviewed research papers and conference presentations around the world.

Dr. Sinha is currently President of the Biosciences division of Acenzia Inc. and his focus area is on developing disease specific zebrafish models for the evaluation of novel therapeutics.



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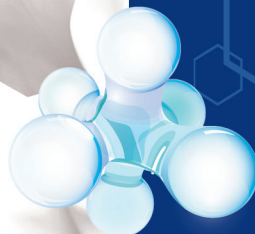
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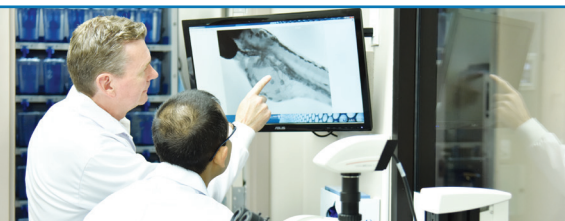
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## Foreword by Dr. Indrajit Sinha, Ph.D

Everybody wants to feel healthy! Having the energy, strength and clarity of mind to be the best we can be, is worthy of pursuit.



As we all know, it is not always easy; pollution, disease, stresses, viruses, allergies, poor nutrition and lack of sleep are working against us. There is good news though. Our bodies are amazing machines with the incredible ability to fight these external assaults and heal itself, especially when you give it optimal nutritional support.

The ingredients profiled in this book, *Synergy12*, represent the realization of a dream that my current business partner and I first saw in 2011. At the time, I was building a company to develop cancer diagnostics and drug development using the Zebrafish model and Grant was building a Natural Health Products manufacturing facility with a focus on quality and innovation.

It was a chance meeting that made our worlds collide and we started working together towards a common vision of creating and manufacturing natural formulations of consistent efficacy and quality. As we worked through different challenges, I started realizing how the Zebrafish research model could support the cause. Over the years we spent countless hours planning and improving the breeding and nurturing of these beautiful models to mimic our human physiology as closely as possible.

**The resulting innovative Zebrafish models opened up a world of possibilities that were unimaginable before in the natural health products industry. By knowing the effects a natural ingredient will have in humans allowed us to find the perfect combination of nutrients to benefit human health.**

This is truly an exciting step in our journey to make a difference! The research and development process we went through as detailed in this book is the realization of a dream come true!

Dr. Indrajit Sinha, Ph.D

A handwritten signature in black ink that reads "Indra Sinha".





## Message by Paul Kramer

There are many challenges when developing a new natural health product. Of course, first and foremost you want that new product to benefit everyone who uses it.

However knowing that a certain combination of ingredients (vitamins, minerals, botanicals, etc) will actually work in synergy as a formulation, is very difficult to do without some sort of testing and experimentation. In fact, there are many cases where natural ingredients actually work against each other in a formula, thereby reducing the benefit a person will receive from the product.

Without spending millions of dollars on pharmaceutical grade research and development, how can a natural health products company have confidence that a specific formula will work synergistically and provide a benefit to the user?

This is the puzzle that Dr. Indra and I set out to solve with the development of the Synergy 12 combination and the story of how it happened is outlined in this book.



**Using the zebrafish research model for the development of a natural health product is something very new to the industry. In fact, what Dr. Indra and I achieved, was a first in the industry!**

Knowing how a **specific combination of natural ingredients will benefit humans using zebrafish in the research and development process is real.** Drug companies have been using these amazing little fish for new drug development for many years.

Isn't it about time that same knowledge was used to develop a natural health product that could benefit millions of people?

We sure think so!

Paul Kramer

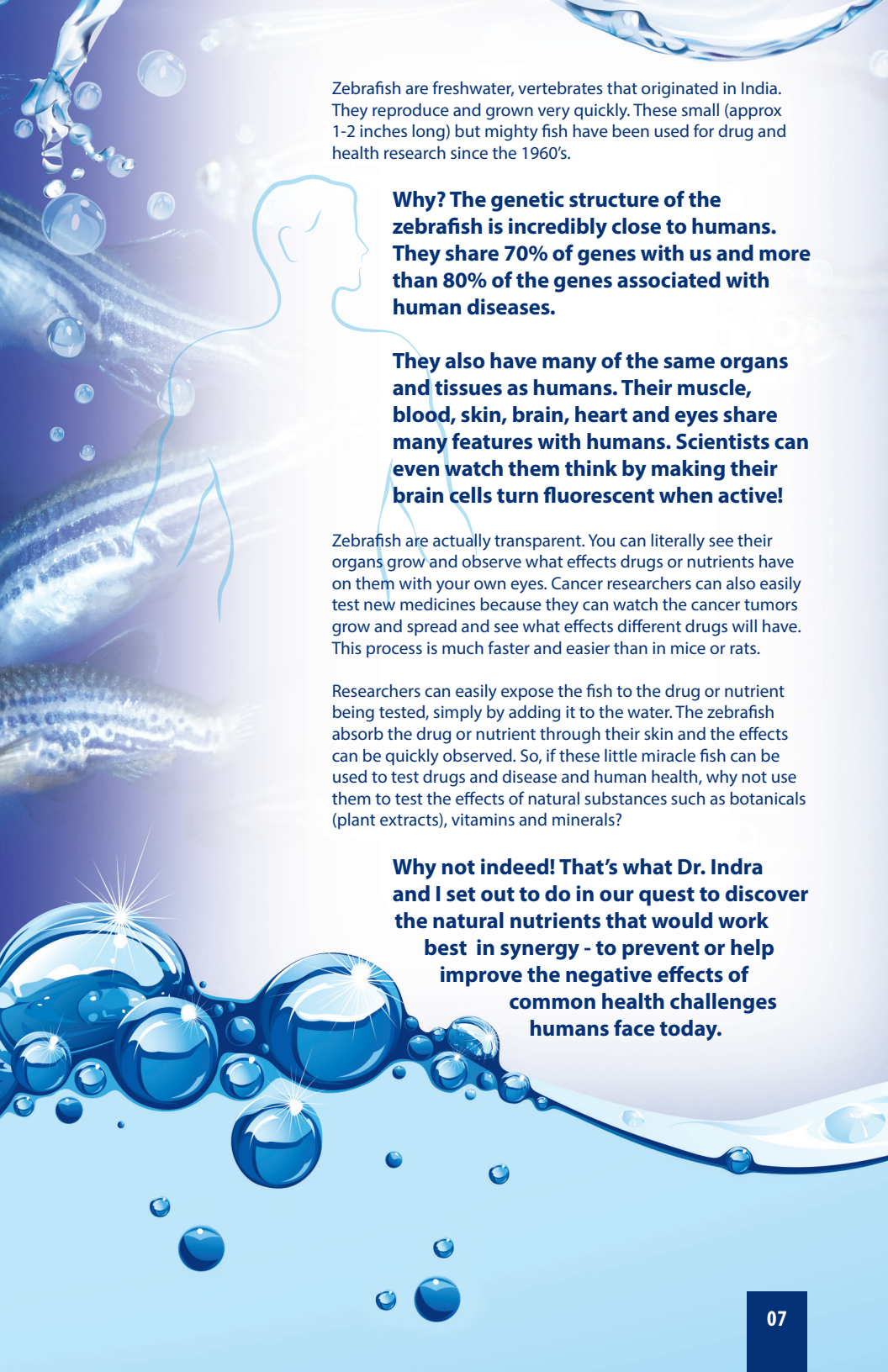
A handwritten signature in black ink, appearing to read 'Paul K.', with a stylized flourish at the end.





# Introduction to **Zebrafish**

*Zebrafish are used to study many different cancers, blood diseases, diabetes, heart disease, brain health and to discover new medicines, and the causes and possible cures, for many human diseases.*



Zebrafish are freshwater, vertebrates that originated in India. They reproduce and grown very quickly. These small (approx 1-2 inches long) but mighty fish have been used for drug and health research since the 1960's.

**Why? The genetic structure of the zebrafish is incredibly close to humans. They share 70% of genes with us and more than 80% of the genes associated with human diseases.**

**They also have many of the same organs and tissues as humans. Their muscle, blood, skin, brain, heart and eyes share many features with humans. Scientists can even watch them think by making their brain cells turn fluorescent when active!**

Zebrafish are actually transparent. You can literally see their organs grow and observe what effects drugs or nutrients have on them with your own eyes. Cancer researchers can also easily test new medicines because they can watch the cancer tumors grow and spread and see what effects different drugs will have. This process is much faster and easier than in mice or rats.

Researchers can easily expose the fish to the drug or nutrient being tested, simply by adding it to the water. The zebrafish absorb the drug or nutrient through their skin and the effects can be quickly observed. So, if these little miracle fish can be used to test drugs and disease and human health, why not use them to test the effects of natural substances such as botanicals (plant extracts), vitamins and minerals?

**Why not indeed! That's what Dr. Indra and I set out to do in our quest to discover the natural nutrients that would work best in synergy - to prevent or help improve the negative effects of common health challenges humans face today.**





## Finding the Synergy12 combination

Using the zebrafish research model, Dr. Indra and I set out to find the most powerful combination of ingredients that would help humans in the following four categories:

01

- Prevent abnormal cell growth (*cancer*)

02

- Enhance tissue repair (*help the body recover from injury*)

03

- Reduce inflammation in the body (*root cause of many diseases*)

04

- Protect cells from the damage caused by environmental pollution and sun exposure

### The Process

By exposing the zebrafish to stress, pollution, certain chemicals (including cancer cells) and then giving them combinations of natural ingredients, you can quickly observe the effects of the formula on their cells. Just like the pharmaceutical companies who use zebrafish to find cures for human diseases, the same process is followed using natural ingredients.

**When you are using a combination of natural ingredients, you can quickly see which ingredients work better together (*the synergistic effect*) and also which ingredients actually work against each other (*antagonistic*).**

With time and patience (and a lot of knowledge from Dr. Indra!), you can come up with the best combination of natural ingredients that will benefit the human body.

**We were able to develop a combination of 12 synergistic ingredients that showed amazing results in the four areas mentioned above that we were targeting.**

Remember, the results observed in the zebrafish will also be observed in humans - this is a very reliable method of determining what will benefit human health.



## Test Results

Remember the four main areas of concern for human health that we were targeting with this research. If you think about these four areas, you'll no doubt realize that every one of us is affected by at least one or possibly all of these conditions:

### #1. Preventing abnormal cell growth (*cancer*)

We are all concerned about getting cancer (and most of us know a family member who has faced this disease).

### #2. Enhance tissue repair (*help the body recover from injury*)

Tissue repair involves anything from recovering from cuts and bruises to major surgeries, tooth repairs, etc.

### #3. Reduce inflammation in the body (*root cause of many diseases*)

Most of don't know that we have high levels of inflammation in our bodies that sets the stage for many future diseases including cancer, heart disease, arthritis, diabetes, etc. In fact, this body inflammation is being widely looked at now among the medical and scientific community as a major risk factor to optimal health.

### #4. Protect the cells from the damage caused by pollution and sun exposure

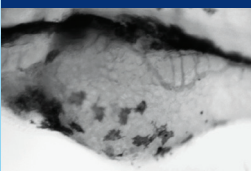
We all are exposed to toxic chemicals in the environment and UV radiation from the sun that affects our body (body pollution).

*So how do we know this final combination of 12 natural health ingredients can actually help us deal with these four major health challenges? Let's take a look at the results we got in relation to our four major categories:*

# #1

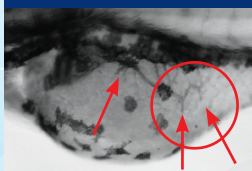
## Preventing Abnormal Cell Growth (*cancer prevention*)

Figure A



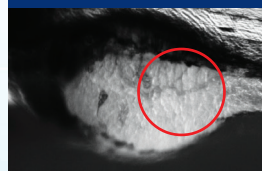
This shows normal vein formation in a **healthy zebrafish not exposed to cancer cells**

Figure B



A cancer cell is inserted into the zebrafish and **abnormal vein formation starts to support cancer growth**

Figure C



The Synergy 12 ingredients are fed to the fish, then cancer cell is inserted. The vein growth to support **cancer growth is dramatically reduced** not allowing the cancer cell to multiply as it usually would

**Conclusion:** when the Synergy 12 ingredients were fed to the zebrafish and the cancer cell was inserted, the **vein formation was almost entirely prevented from developing** (Figure C).



## #2

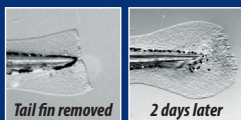
### Enhance Tissue Repair (help the body recover from injury)

Figure A



The tail fin of a healthy zebrafish is removed (remember, they don't feel pain at this young age) and **two days later you can see the normal amount of tissue regeneration.**

Figure B



After consuming the Synergy 12 ingredients the same tail fin is removed and **two days later you can see how much more of the tissue was regenerated.**

**Conclusion:** the results (Figure B) **show the tissue regeneration in the fish consuming the Synergy 12 ingredients was 3x more than the control** (Figure A).

Antioxidants in our diets reduce inflammation in our body, this is one of the primary roles of antioxidants.

The Synergy 12 ingredients all have their own individual antioxidant levels when consumed individually.

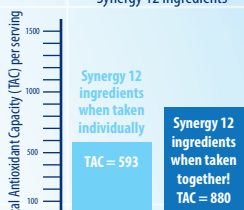
**Conclusion:** The **real power of these 12 ingredients is when they are taken together...** that is the results of the synergistic effect!

## #3

### Reduce inflammation in the body (root cause of many diseases)

Chart A

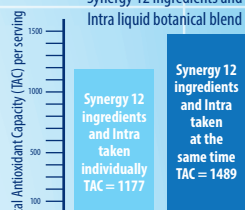
Synergy 12 ingredients



The Synergy 12 ingredients have **33% more antioxidant power** when taken at the same time!

Chart B

Synergy 12 ingredients and Intra liquid botanical blend

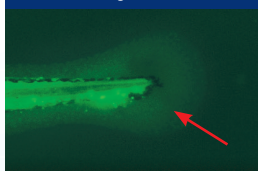


The **antioxidant power is increased by 21%** when the Synergy 12 ingredients and Intra are taken at the same time!

## #4

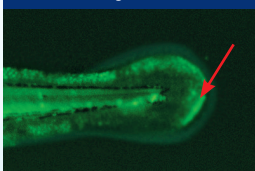
### Protect the cells from the damage caused by pollution and sun exposure

Figure A



This is a **healthy zebrafish tail fin not exposed to Ultraviolet (UV) radiation** (similar to the UV found in sunlight).

Figure B



This shows a **healthy zebrafish tail fin exposed to ultraviolet radiation.** The darkness of the green stain is the damage being caused to the cells from the UV light.

Figure C



This shows a zebrafish being **exposed to UV radiation AFTER consuming the Synergy 12 ingredients.** You can see far less dark green cell damage.

**Conclusion:** the Synergy 12 ingredients protect the cells from the damages of UV radiation. There was a **60% reduction** in cell damage when the zebrafish consumed the Synergy 12 ingredients (Figure C).



# AMLA



## Amla

**Common name:** Amla, Indian gooseberry

**Botanical name:** *Phyllanthus emblica*

**Part used:** Fruit

Amla, also known as Indian gooseberry, is a medium-sized deciduous tree that is native to India and the Middle East but also grown in other countries such as Pakistan, Uzbekistan, Sri Lanka, China, Malaysia, and other Southeast Asian countries.

This fruit ripens in the autumn in wet, forest, hilly areas on the Indian subcontinent and is considered as a sacred tree in India. The fruit is very nourishing, but it tastes sour. Both, dried and fresh fruits can be consumed for their respective health benefits.



### Fast Fact:

*The Indian gooseberry belongs to the Euphorbiaceae family. This fruit ripens in the autumn in wet, forest, hilly areas on the Indian subcontinent and is considered as a sacred tree in India.*

It provides a number of remedies for various diseases and is, thus, widely used in Ayurvedic treatments. Gooseberry is very rich in Vitamin C and contains many minerals and Vitamins like calcium, phosphorus, iron, carotene, and Vitamin B complex. It is also a powerful antioxidant agent.

## Health Benefits

### Anticancer effects

Studies have shown Indian gooseberry decreased tumor size and increased survival in tumor-bearing mice. The juice of Indian gooseberry inhibits the formation of the genotoxic compounds N-nitrosomorpholine (NMOR) and N-nitrosoproline (NPRO) in humans and animals .



#### **Anti-inflammatory effects**

Indian gooseberry leaf extract may have anti-inflammatory activity due to its high antioxidant content.

#### **Antioxidant effects**

In rats, the tannins emblicanin A, emblicanin B, punigluconin, and pedunculagin found in Indian gooseberry increased concentrations of the antioxidants known as superoxide dismutase, catalase, and glutathione peroxidase within the brain.

#### **Endocrine effects**

In animal studies and in vitro, Indian gooseberry reduces the release of inflammatory cytokines that cause insulin resistance.

#### **Aids in Calcium Absorption**

One of the less discussed benefits of amla is how it helps the body absorb calcium in a positive way. Calcium is an essential component of our bones, teeth, and nails, and also ensures that we have beautiful lustrous hair. Consuming a Vitamin C-rich fruit, such as the Indian gooseberry, is a great way to keep your body looking and feeling great.

#### **Anti-aging Properties**

Amla prevents health-related hyperlipidemia by reducing the number of free radicals in the body through its antioxidant qualities. Free radicals are associated with signs of aging like wrinkles and age spots.

#### **References:**

- [www.organicfacts.net](http://www.organicfacts.net)
- Natural Medicines Database







# BROCCOLI



## Broccoli

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**Common name:** Broccoli

**Botanical name:** *Brassica oleracea* var. *italica*

**Part used:** flowers, stems, leaves

Broccoli is a member of the cabbage family, and is closely related to cauliflower. Its cultivation originated in Italy. *Broccolo*, its Italian name, means “cabbage sprout.” Broccoli’s name is derived from the Latin word *brachium*, which means branch or arm, a reflection of its tree-like shape that features a compact head of florets attached by small stems to a larger stalk. Because of its different components, this vegetable provides a complex of tastes and textures, ranging from soft and flowery (the florets) to fibrous and crunchy (the stem and stalk). Its colour can range from deep sage to dark green to purplish-green, depending upon the variety. One of the most popular types of broccoli sold in North America is known as Italian green, or Calabrese, named after the Italian province of Calabria where it first grew.



### Did you know...

Broccoli originated in Italy off of the Mediterranean. It has been eaten there since the time of the ancient Romans in the 6th Century BC.

According to the American Cancer Society and the Canadian Food Guide to Healthy Eating, it is recommended to include the Brassica vegetables in our daily diets due to their nutritional value and medicinal properties.

Broccoli has many nutrients and biochemical substances, such as Vitamins, minerals, fiber, carotenoids, bioflavonoids, sulfur, dithiolethiones, and glucosinolates. More importantly, these vegetables enhance the body’s cancer-fighting abilities, possess antioxidant effects, and remove harmful chemical additives, including radiation.



## Health Benefits of Broccoli

### Cancer

In the early 1950's, researchers found that those who consumed even the smallest amount of broccoli reduced their risk of cancer significantly. Broccoli is an excellent source of phytochemical sulforaphane, which can inhibit the action of cancer causing agents. The cancer fighting abilities of sulforaphane may help to explain studies that link regular intake of cruciferous vegetables, such as broccoli, which is known to reduce the risk of cancer in the bowel, stomach, breast, lungs, and kidneys.

### Antioxidant effects

Broccoli contains Vitamin E, Vitamin C, carotenes, flavonoids (quercetin), minerals, and other phytochemicals, and act as direct antioxidants that neutralize free radical molecules.

Evidence suggests that a diet rich in fruits and vegetables, especially the Brassica vegetables, may increase plasma oxygen radical absorbance capacity (ORAC) and Vitamin E concentrations.

### References:

- [www.naturalstandard.com](http://www.naturalstandard.com)
- <http://whfoods.org/genpage.php?dbid=9&tname=foodspice>





# CARROT



## Carrot

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**Common name:** Carrot, Carota

**Botanical name:** *Daucus carota sativa*

**Part used:** Root

Carrot is a well-known root vegetable whose color can be white, orange, red, or purple depending on the nutrients it contains. Usually only the carrot root is consumed, although the leaves are also edible.

### Nutritional Value

Carrots are a good source of several vitamins and minerals, especially Vitamin A (from beta-carotene), biotin, Vitamin K (phylloquinone), potassium and Vitamin B6. Beta-carotene is converted to Vitamin A in the body. Vitamin A promotes good vision, and is important for growth, development, and immune function.



### Fast Fact:

*Carrots can be traced back about 5,000 years through historical documents and paintings, and people first grew carrots as medicine, not food, for a variety of ailments.*

Carrots contain many plant compounds, but the carotenoids are by far the best known. These are substances with powerful antioxidant activity, and have been linked to improved immune function and reduced risk of many diseases.

### Health Benefits

#### Antioxidant Protection

Beta-carotene has antioxidant activities and can prevent fat oxidation in the body. Clinical evidence suggests that





consuming carrot juice daily reduces oxidative base damage in healthy people which can contribute to an anti-aging effect.

#### **Cancer Prevention**

Diets rich in carotenes may have a protective effect against several types of cancer. This includes prostate cancer, colon cancer and stomach cancer. Women with high circulating levels of carotenoids may also be at reduced risk of breast cancer.

#### **Eye Health**

Carrot consumption has been linked with improved eye health. Individuals that are low in Vitamin A are more likely to experience night blindness, a condition that may improve by eating carrots or other foods rich in Vitamin A or carotenoids. Carotenoids may also cut the risk of age-related macular degeneration.

#### **References:**

- [www.healthline.com](http://www.healthline.com)
- Natural Medicines Database





# GARLIC



## Garlic

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**Common name:** Aged garlic, Stinking rose

**Botanical name:** *Allium sativum*

**Part used:** Bulb

Garlic is a culinary herb cultivated worldwide that is closely related to onion, leeks, and chives. It is thought that garlic is native to Siberia, but was spread to other parts of the world over 5000 years ago.

Garlic now grows in many parts of the world and is a popular ingredient in cooking due to its strong smell and delicious taste. However, throughout ancient history, the main use of garlic was for its health and medicinal properties.



### Did you know...

*It's believed that Egyptian pharaohs fed their pyramid-builders with garlic for strength, and an ancient Egyptian medical document—the Ebers Papyrus—counts 22 different medicinal uses for the plant.*

We now know that most of the health effects are caused by a compound called allicin, one of the sulfur compounds formed when a garlic clove is chopped, crushed or chewed. Garlic is also rich in Vitamin C, Vitamin B6, and the minerals manganese and selenium.

## Health Benefits

### Fight the Common Cold

Garlic supplementation is known to boost the function of the immune system. Studies show that a daily garlic supplement reduced the number of colds by 63% compared with placebo. The average length of a cold is also reduced using garlic supplements.



### **Improve Cholesterol Levels**

Garlic can lower total and LDL cholesterol. For those with high cholesterol, garlic supplementation appears to reduce total and/or LDL cholesterol.

Looking at LDL (the “bad”) and HDL (the “good”) cholesterol specifically, garlic appears to lower LDL but has no reliable effect on HDL. Garlic does not appear to lower triglyceride levels, another known risk factor for heart disease.

### **Prevent Alzheimer’s Disease and Dementia**

Oxidative damage from free radicals contributes to the aging process. Garlic contains antioxidants that support the body’s protective mechanisms against oxidative damage.

Garlic supplements have been shown to increase antioxidant enzymes in people, as well as significantly reduce oxidative stress in those with high blood pressure. The combined effects on reducing cholesterol and blood pressure, as well as the antioxidant properties, may help prevent common brain diseases like Alzheimer’s disease and dementia.

#### **References:**

- [www.healthline.com](http://www.healthline.com)
- Natural Medicines Database







# GRAPE SEED



## Grape Seed

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**Common name:** Grape seed

**Botanical name:** *Vitis vinifera*

**Part used:** Seeds

Red Grapes are rich in colourful flavonoids called anthocyanins and their colourless precursors called oligomeric proanthocyanidins (OPCs). The ability of OPCs to complex protein is referred to as astringency and is responsible for the “puckery” sensation when tea or red wine comes in contact with saliva and buccal tissue.

## Health Benefits



### Fast Fact:

*Grape seed extract is produced by grinding up the seeds found at the center of grapes and then using a steam distillation or cold-pressing method to extract the pure compounds of the seeds.*

### Antioxidant

Grape seed extract is a source of antioxidant for the maintenance of good health. The OPCs in grape seed extract has potent antioxidative properties that fight against free radical and oxidative stress. Cathecins components of grape seed extract, helps to reduce allergic responses by inhibiting enzymes involved in the formation of histamine – thereby helping to reduce symptoms of allergies and excess histamine in the stomach that may lead to stomach problems. Researches on OPCs show it inhibits chemically-induced lipid peroxidation.

### Chronic Venous Insufficiency (CVI)

Grape seed extract helps to relieve symptoms related to non-complicated chronic venous insufficiency (CVI), such as



the sensation of swelling, heaviness and tingling of the legs. In Europe, some researchers use OPCs to treat various vascular disorders, such as varicose veins, venous insufficiency, capillary fragility, and retinopathies. Several clinical trials have confirmed the beneficial effects of OPC use in treating vascular disorders.

#### **Other benefits**

Edema is swelling caused by surgery or an injury, and seems to go away faster when people take grape seed extract. Edema is common after breast cancer surgery, and one double blind placebo controlled study found that breast cancer patients who took 600 mg of grape seed extract daily after surgery for six months, had less edema and pain than those who took placebo.

Another study found that people who took grape seed extract after experiencing a sports injury had less swelling than those who took placebo.

#### **Safety**

Currently, grape seed extract is available as a dietary supplement in the United States. Based on historical use and available research, it appears that grape seed extract is generally well tolerated.

#### **References:**

- [www.naturalstandard.com](http://www.naturalstandard.com)
- Thorne research. Oligomeric Proanthocyanidins (OPCs) monograph. Alternative Medicine Review. Volume 8, Number 4. 2003
- Health Canada Compendial Monograph
- <http://www.umm.edu/altmed/articles/grape-seed-000254.htm>





# GREEN TEA



## Green Tea

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**Common name:** Green tea

**Botanical name:** *Camellia sinensis* ; *Thea sinensis* L. (*Theaceae*)

**Part used:** Leaf

Tea ranks second only to water as a major component of fluid intake worldwide and has been considered a health-promoting beverage since ancient times.

It was introduced to Western cultures in the 6th Century. Green tea is the fourth most commonly used dietary supplement in the United States. It is grown and consumed primarily in China, Japan, and countries in North Africa and the Middle East. Green tea is made by briefly steaming the just harvested leaves, rendering them soft and pliable, preventing them from oxidation/fermenting or changing color.

The components of Green tea include caffeine, polyphenols, trace elements, and vitamins. Major polyphenols include catechins, epicatechin, epicatechin gallate, epigallocatechin-3-gallate (EGCG), and proanthocyanidins.



### Did you know...

Green tea actually comes from the same plant from where normal tea is obtained. Scientifically, it is known as *Camellia sinensis*.

## Health Benefits

### Antioxidant effects

The secret of green tea lies in the fact that it is rich in catechin polyphenols, particularly epigallocatechin gallate (EGCG). EGCG is a powerful anti-oxidant: It inhibits the growth of cancer





cells and kills cancer cells without harming healthy tissue. It is also effective in lowering LDL cholesterol levels, and inhibiting the abnormal formation of blood clots. The latter takes on added importance when you consider that thrombosis (the formation of abnormal blood clots) is the leading cause of heart attacks and stroke.

#### **Cardiovascular effects**

Catechins in Green tea may prevent cardiovascular diseases by preventing LDL cholesterol from oxidative damage due to its free radical quenching and metal chelating abilities. A Japanese study showed that drinking green tea regularly may significantly lower cholesterol levels. This may be explained partly due to the ability of flavanols' to inhibit cholesterol absorption into the body.

#### **Other benefits**

Green tea is used as an antioxidant for chronic disease prevention. Just as its bacteria-destroying abilities can help prevent food poisoning, it can also kill the bacteria that cause dental plaque, therefore helping prevent tooth decay. Traditional health claims for green tea include: Improving blood and urine flow, assisting in the elimination of alcohol and toxins, relieving joint pain, and improving resistance to diseases. Green tea is an accepted cancer preventive agent in Japan and Fiji. Traditional Chinese medicine practitioners use green tea as a cardi tonic, central nervous system stimulant, and diuretic. In India, green tea infusions are used to treat fungal infections.



#### **References:**

- [www.naturalstandard.com](http://www.naturalstandard.com)
- Lyndel Costain (2001) – Super Nutrients Handbook – New York



# PRUNE



## Prune

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**Common name:** Prune, Dried plums

**Botanical name:** *Prunus domestica*

**Part used:** Fruit

Prunes are a good source of potassium, an electrolyte that assists in a variety of vital bodily functions. This mineral helps with digestion, heart rhythm, nerve impulses, and muscle contractions, as well as blood pressure.

Since the body doesn't naturally produce potassium, consuming prunes or prune juice can help you avoid deficiencies. Prunes aren't just high in potassium — they also contain lots of key Vitamins, including Vitamin K, Vitamin B2, Vitamin B6 and niacin.



### **Fast Fact:**

*California is the world's largest producer of dried prune plums, supplying approximately 40% of the world's supply and 99% of the U.S. supply.*

## Health Benefits

### **Healthy bones and muscles**

Dried prunes are an important source of the mineral boron, which can help build strong bones and muscles. It may also help with improving mental acuity and muscle coordination. Prunes may be especially beneficial in fighting bone density loss from radiation.

A 2016 animal study found that dried plums and dried plum powder can reduce radiation's effect on bone marrow, preventing bone density loss and promoting bone health. Prunes even have some potential as a treatment for



osteoporosis. Another study presented evidence that dried plums can prevent loss of bone mass in postmenopausal women who are prone to osteoporosis.

#### **Reduces cholesterol levels**

Fat and cholesterol can collect in your arteries to form a substance called plaque. When plaque builds up in your arteries, it can cause atherosclerosis, a narrowing of the arteries. If left untreated, this condition can lead to heart failure, stroke, and heart attack.

Research suggests that dried prunes may help slow the development of atherosclerosis. There are a few possible reasons for this including that antioxidants in prunes can have a positive effect on cholesterol levels. Another study found that soluble fiber, which is found in prunes, may help reduce cholesterol levels.

#### **Lowers blood pressure**

Scientists have shown that eating prunes and drinking prune juice can significantly reduce blood pressure. For instance, a 2010 study reported that blood pressure was reduced in groups that were given prunes daily.

#### **References:**

- [www.healthline.com](http://www.healthline.com)
- Natural Medicines Database







# RED BEET



## Red Beet

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**Common name:** Beet root

**Botanical name:** *Beta vulgaris*

**Part used:** Root

Beet is a flowering perennial plant that produces leaves and roots widely used as a food source in humans and animals. Nutritionally, beets are a source of Vitamins A and C, iron, and other minerals, carotenoids, and dietary fiber.

## Health Benefits

### Nutritional Value

Potassium is a mineral electrolyte that helps nerves and muscles function properly. If potassium levels get too low, fatigue, weakness, and muscle cramps can occur. Very low potassium may lead to life-threatening abnormal heart rhythms. Beets are rich in potassium and daily consumption can help keep your potassium levels optimal.

Beet root is also a good source of other minerals including calcium, iron, magnesium, manganese, phosphorous, sodium, zinc, copper and selenium. Beets are true mineral powerhouses!

### Blood Pressure

Beet root juice may help lower your blood pressure. Researchers found that people who consumed beet root daily lowered both systolic and diastolic blood pressure. Nitrates, compounds in



### Did you know...

*Beets contain betaine, a substance that relaxes the mind and is used in other forms to treat depression. It also contains tryptophan (also found in chocolate), which contributes to a sense of well being.*



beet root that convert into nitric acid in the blood and help widen and relax blood vessels, are thought to be the cause.

#### **Exercise Stamina**

Beet root may also improve exercise stamina. A study showed beet root increases plasma nitrate levels and boosts physical performance. During the study, participants who consumed beet root juice daily improved their times, while also reducing their maximum oxygen output.

#### **Dementia**

As beets are such a high source of nitrates, they may slow the progression of dementia. According to a 2011 study, nitrates may help increase blood flow to the brain in older people and help slow cognitive decline.

After participants consumed a high-nitrate diet which included beet root , their brain MRIs showed increased blood flow in the frontal lobes. The frontal lobes are associated with cognitive thinking and behavior. More studies are needed, but the potential of a high-nitrate diet to help prevent or slow dementia is promising.



#### **References:**

- [www.healthline.com](http://www.healthline.com)
- Natural Medicines Database



# SPIRULINA



## Spirulina

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**Common name:** Spirulina, Blue-Green Algae

**Botanical name:** *Spirulina platensis*

**Part used:** Whole plant

Spirulina is an organism that grows in both fresh and salt water. It is a type of bacteria called cyanobacterium, which is often referred to as blue-green algae. Just like plants, cyanobacteria can produce energy out of sunlight, via the process called photosynthesis.

Spirulina was originally consumed by the Aztecs, but became popular again when NASA proposed that it could be grown in space and used by astronauts.

The most common species of blue-green algae found in supplements are from the *Arthrospira* genus. These species are collectively referred to as Spirulina. Spirulina blue-green algae are harvested from natural lakes, or are grown in commercial ponds where growth of unwanted species is controlled. They grow most prolifically in warm, alkaline water with a high salt content.



### Fast Fact:

*The Aztecs harvested spirulina from Lake Texcoco in central Mexico, and it is still harvested from Lake Chad in west-central Africa and turned into dry cakes.*

## Health Benefits

### Nutritional Value

Spirulina is very nutritious, containing protein, Vitamin B1, Vitamin B2, Vitamin B3 (Niacin), copper, iron. Spirulina also





contains decent amounts of magnesium, potassium and manganese, and small amounts of almost every other nutrient that we need.

#### **Antioxidant**

Spirulina has powerful antioxidant and anti-inflammatory properties which can protect against oxidative damage. The main active component is called *phycocyanin*. This antioxidant substance also gives Spirulina its unique blue-green color.

Phycocyanin can fight free radicals and inhibit production of inflammatory signalling molecules, providing impressive antioxidant and anti-inflammatory effects

#### **Cancer Prevention**

Evidence suggests that Spirulina can have anti-cancer properties. For example, some research in test animals shows that it can reduce cancer occurrence and tumor size. Spirulina has been particularly well studied with regard to oral cancer, which is cancer of the mouth.

#### **Blood Pressure**

Studies show that it may reduce blood pressure, an important driver of many killer diseases including heart attacks, strokes and chronic kidney disease. This is believed to be driven by an increased production of nitric oxide, a signalling molecule that helps the blood vessels relax and dilate.

#### **References:**

- [www.healthline.com](http://www.healthline.com)
- Natural Medicines Database





# ALPHA LIPOIC ACID



## Alpha Lipoic Acid

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**Common name:** Lipoic acid

Alpha-lipoic acid is an antioxidant that is produced naturally in the body. It can also be found in dietary sources such as red meat, organ meats, spinach, broccoli, tomatoes, potatoes, yams, carrots, beets, and yeast. This antioxidant is both water- and fat-soluble. All areas of your body can absorb it.

## Health Benefits

### Aging skin

Clinical research suggests taking a combination product containing Alpha-lipoic acid Vitamin C and some B vitamins can significantly reduce signs of aging skin including skin thickness and elasticity, fine wrinkles, and roughness compared to baseline in women with aging symptoms.

### Diabetic neuropathy (nerve damage)

Giving Alpha-lipoic acid orally or intravenously daily seems to reduce symptoms of peripheral neuropathy (nerve damage caused by diabetes) in patients with diabetes.

Alpha-lipoic acid, seems to improve neuropathic sensory symptoms such as burning, pain, numbness, and pricking of the feet and legs, as well as improve objective measures such as ratings of neurological deficit and disability.



### Did you know...

*Alpha lipoic acid is a vitamin-like substance that is found in yeast, liver, spinach, broccoli and potatoes.*



### Fights Free Radicals

Antioxidants such as lipoic acid prevent damage by neutralizing free radicals and reducing oxidative stress. Alpha lipoic acid is an unusual antioxidant because it can act in both water-soluble and fat-soluble domains in cells and tissues. Thanks to these qualities, it is easily absorbed and transported into many organs and systems within the body, for example, the brain, liver, and nerves.

When Alpha lipoic acid is combined with other antioxidants, the body's ability to fight free radicals is greatly increased. In fact, lipoic acid helps to regenerate Vitamins C and E.

### Eye Health

Lipoic acid offers promise in supporting optimal visual health. As adults grow older, they become more vulnerable to developing cataracts, opacities of the lens that cloud sight.

Alpha lipoic acid was found to offer notable protection against cataract formation. Scientists believe that alpha lipoic acid may confer this benefit by increasing levels of essential antioxidant enzymes such as glutathione peroxidase.

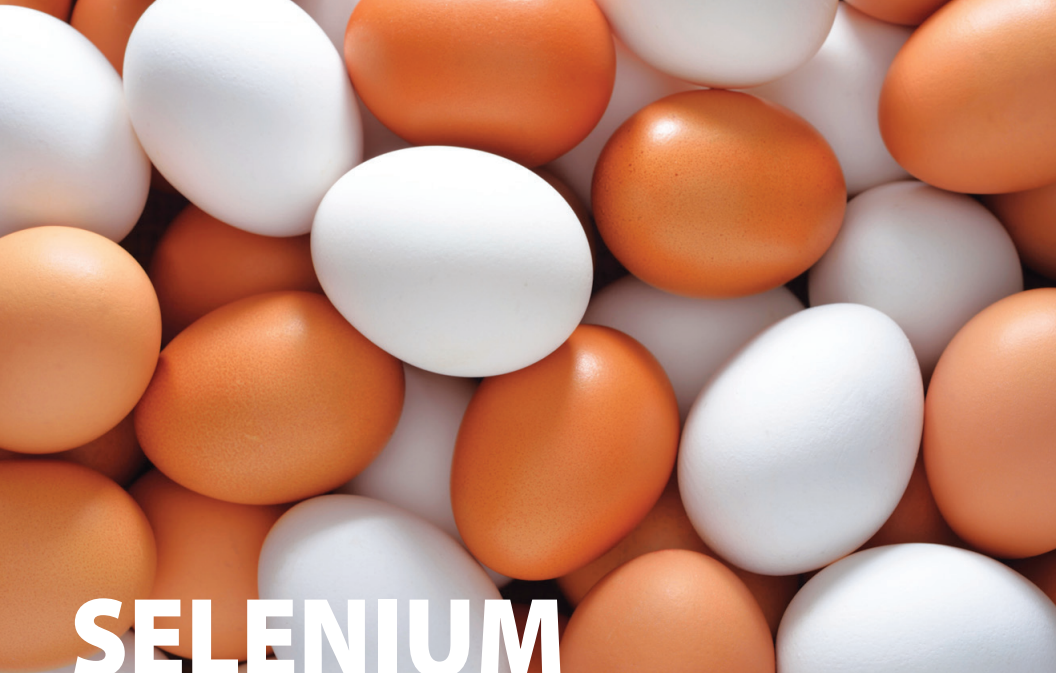
Another common cause of vision loss is glaucoma. A study in patients with open-angle glaucoma found that visual function and other measures of glaucoma were improved in a group that received alpha lipoic acid daily for one month.



#### References:

- [www.lifeextension.com](http://www.lifeextension.com)
- Natural Medicines Database





## Selenium

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**Common name:** Selenium

Selenium is an essential mineral found in small amounts in the body. Selenium can be found in some meats and seafood. Animals that eat grains or plants that grow in selenium-rich soil have higher levels of selenium in their muscles. Selenium also occurs naturally in foods such as whole grains, garlic, eggs and mushrooms.

Due today's farming method and nutrient depleted soil, it is important to supplement with selenium. According to Dr. Richard A. Passwater, "Your body needs this mineral for the production of several important body compounds, including enzymes, or catalysts, which are involved in antioxidant protection and thyroid-hormone metabolism. It has been estimated that there are between 50 and 100 different selenium-containing proteins in the human body, including those that build heart muscle, red blood cells, and sperm."



### **Fast Fact:**

*Like most minerals, the amount of selenium found in the soil affects the amount of selenium found in the food that is grown in it.*

## Health Benefits

### **Cancer**

It is believed that selenium helps to fight diseases including cancer by neutralizing harmful elements called "free radicals," the unstable molecules that damage tissues. It has also been shown that people who have diets rich in selenium have lower rates of cancer than those who have poor intakes of this mineral. Studies



are currently assessing whether taking selenium supplements can actually help to reduce the risk of certain cancers, especially those of the lung, prostate gland, colon, and rectum.

#### **Heart Health**

Selenium benefits the heart by helping to reduce LDL “bad” cholesterol buildup that clogs artery walls. It also helps to prevent damage to the artery walls from free radical attacks.

#### **Immune system stimulant**

Selenium supplements appear to stimulate the immune system, which in turn helps to protect the body from infections.

#### **Why take this supplement?**

There are different forms of selenium in the nutraceutical market. Selenium can be purchased either in a salt form or in an organically bound form. The salts are sodium selenite and sodium selenate, both has been shown to be less bioavailable than organically bound forms of selenium.

Organically bound forms of selenium are high selenium yeast or selenomethionine. High selenium yeast is produced in a consistent and controlled fermentation system. Yeast provides increased bioavailability for the human body compared to other forms of selenium, which greatly reduces the potential for toxicity.



#### **References:**

- Richard A. Passwater, Ph. D. Avery Publishing Group - Garden City Park, NY
- Amanda Ursell (2001) – Vitamin & Minerals Handbook – New York



## Vitamin C

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**Common name:** Vitamin C

Vitamin C (ascorbic acid) is a water-soluble vitamin that is an essential nutrient for humans. In living organisms ascorbate acts as an antioxidant. It is necessary for the formation of collagen in the bones, cartilage, muscle, and blood vessels. It also helps the body to absorb iron. Severe vitamin C deficiency may cause scurvy. Although rare, scurvy may lead to potentially severe consequences, including death.

Excellent food sources of vitamin C include broccoli, bell peppers, parsley, brussels sprouts, cauliflower, lemon juice, strawberries, mustard greens, kiwi, papaya, kale, cabbage, oranges, cantaloupe, grapefruit, pineapple, chard, tomatoes, collard greens, raspberries, spinach, green beans, fennel, cranberries and asparagus. It is important to note that most of the vitamin C in foods will be destroyed with cutting, cooking, storing, and other forms of processing.



### **Did you know...**

*Research shows that people who regularly take vitamin C supplements may have slightly shorter colds and/or somewhat milder symptoms.*

## **Health Benefits**

### **Immunostimulant effects**

Supplements of vitamin C may increase the immune system's ability to fight viral and bacterial infections, helping, for example, to reduce the duration of a cold.





### **Wound Healing**

People who take 200-250 mg of vitamin C daily have an improved recovery rate after surgery, while the healing of bedsores and bleeding gums are evident in people taking 250-500 mg daily.

### **Other Benefits**

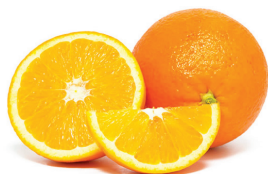
Vitamin C helps the body to metabolize fats and proteins. It helps in the development and maintenance of bones, cartilage, teeth; helps in the development and maintenance of gums and helps in connective tissue formation. It also helps to detoxify our bodies, promotes healing of all of our cells, and allows us to better deal with stress. It also supports the good bacteria in our gut, destroys detrimental bacteria and viruses, neutralizes harmful free radicals, removes heavy metals, protects us from pollution, and much more.

### **Why take this supplement?**

Vitamin C is a water-soluble vitamin, meaning that your body doesn't store it. Vitamin C supplement is necessary for people who are not consuming enough fruits and vegetables. For adults, the daily recommended dose of vitamin C is 45-90 mg. Smokers, pregnant women and breast-feeding mothers need to take more Vitamin C.

#### **References:**

- [www.naturalstandard.com](http://www.naturalstandard.com)
- Health Canada Compendial Monograph
- Amanda Ursell (2001) – Vitamin & Minerals Handbook – New York





# Synergy 12


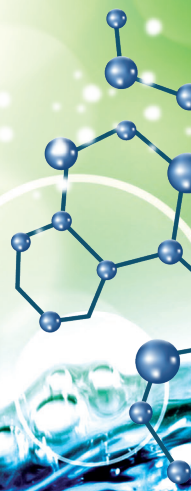
This is the story of a natural health breakthrough – the development of a unique blend of twelve natural ingredients and how powerful the synergistic effect can be among these ingredients.

Synergy 12 also tells the story of the ground-breaking development of a natural health product using the zebrafish research model.

Learn how these unique fish and combination of these ingredients were developed to help people with the following health challenges:

- Preventing abnormal cell growth (*cancer*)
- Enhancing tissue repair (*help the body recover from injury*)
- Reducing inflammation in the body (*root cause of many diseases*)
- Protecting the cells from the damage caused by environmental pollution and sun exposure

***If you're interested in learning which combination of natural ingredients can help you stay healthy and live in optimal health, read Synergy 12 now!***



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