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November 2011

Combat Stubborn Arthritis Pain

What Kills Health-Conscious People?

Topical Resveratrol for Youthful Skin

European Treatment For Aortic Stenosis

Blunting Lethal Impact of Nuclear Factor-kappaB





How Does She Keep Winning Medals Past Age 40?

MORE THAN JUST RESVERATROL

Life Extension® introduced **resveratrol** in **2003** to favorably alter **genes** that respond to **calorie restriction**. Since then, *additional* compounds have been discovered that enable cellular **DNA** to exhibit more youthful *gene expression*.

Just two capsules a day of **CR Mimetic Longevity Formula** supply:

Trans-Resveratrol is the <u>form</u> of resveratrol used in scientific studies documenting remarkable longevity-enhancing effects. You would have to drink many bottles of red wine to obtain a fraction of the **trans-resveratrol** (250 mg) found in **CR Mimetic Longevity Formula**.

Quercetin inhibits the actions of enzymes in the liver from rapidly breaking down resveratrol in the bloodstream, thus enabling **resveratrol** to remain active **longer** in the body.

Fisetin is an extract from strawberries that "switches on" cell signaling molecules that support youthful expression of longevity genes and works in <u>synergy</u> with resveratrol. You would have to eat two cups of **strawberries** to obtain the amount of **fisetin** contained in the **CR Mimetic Longevity Formula**.



Item # 01429

Pterostilbene directly activates genes "downstream" from the sites of resveratrol's action, providing a powerful complementary stimulus to resveratrol's ability to induce youthful gene expression. You would have to eat 135 cups of blueberries to obtain the amount of pterostilbene contained in the CR Mimetic Longevity Formula.

Grape seed extract provides **proanthocyanidins** that have multiple health benefits <u>and</u> work together with resveratrol to trigger favorable **gene expression** changes.

Theaflavins from black tea suppress the deadly pro-inflammatory transcription factor NF-kB,¹ and stimulate the longevity factor Forkhead box 1 (FOXO1) in invertebrate and mammalian cells.²⁻³ You would have to drink 12 six ounce cups of black tea each day to obtain the amount of theaflavins contained in CR Mimetic Longevity Formula.

Two capsules a day of **CR Mimetic Longevity Formula** provide:

Trans-Resveratrol	250 mg	Pterostilbene	3 mg
Black Tea Theaflavins	300 mg	Fisetin	48 mg
Grape Seed Polyphenols	50 mg	Quercetin	150 mg

A bottle containing 60 vegetarian capsules of **CR Mimetic Longevity Formula** retails for \$39. If a member buys four bottles, the price is reduced to just **\$27** per bottle. The cost of taking the highly purified plant extracts individually would be significantly higher compared to the optimal doses found in **CR Mimetic Longevity Formula**.

References: 1. Mol Nutr Food Res. 2011;55:198-208 • 2. Cancer Res. 2000;60:6465-71 • 3. Aging Cell. 2008;7(1):69-77.

To order CR Mimetic Longevity Formula call 1-800-544-4440 or visit www.LifeExtension.com

LifeExtension®

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REPORTS

42 PROTECT YOUR BRAIN WITH PQQ

Hundreds of published studies confirm mitochondrial decay as a primary cause of most neurodegenerative diseases. Antioxidants alone cannot prevent this kind of brain cell death. A compound called pyrrologuinoline guinone or **PQQ** triggers aging brain cells to grow new mitochondria and stimulates nerve cell growth, which may help to prevent Parkinson's, Alzheimer's, and other degenerative brain disorders.



As many as 95% of all cancers utilize a molecule called nuclear factor-kappaB or NF-kB. It is the master regulator of inflammatory processes that cancers use to grow and spread. A variety of nutrients have been shown to suppress NF-kB and blunt its impact, including fish oil, curcumin, and green tea.



Swimming icon Dara Torres has won 12 Olympic medals in her career. Most impressive are the three silver medals she won in 2008 at the age of 41. Dara plans on competing again in 2012. Here she discusses the keys to her career longevity, her quest for another Olympic win, and the supplements that help fuel her success.



Years of research confirm resveratrol's power to boost longevity when taken orally. Dermatologists are now discovering that when applied topically, resveratrol also protects against skin aging, with 17 times the antioxidant potency of the expensive anti-wrinkle drug idebenone.



30 KRILL OIL **COMBATS ARTHRITIS PAIN**

Conventional medicine's preferred treatments for arthritis fail to provide safe, long-term relief. One problem is they do not neutralize the many pro-inflammatory molecules that attack aging joints. New data indicate that in combination with hyaluronic acid and astaxanthin, low-dose krill oil specifically targets these joint-damaging molecules. In one clinical trial, over 60% of arthritis sufferers were pain-free in less than three months!



DEPARTMENTS

AVOIDING THE CATASTROPHIC EVENT

What kills those who take extraordinary steps to stay healthy? Often just one catastrophic event can launch a cascade of degenerative processes ending in death. Aortic stenosis is one such catastrophe. Health pioneer Jack LaLanne did almost everything right, but he may have fallen victim to one omission that resulted in him developing aortic stenosis.



Omega-3s prevent cognitive decline; garlic and grape seed supplements lower blood cancer risk; green tea protects against influenza; and more.

85 SUPERFOODS: THE AMAZING ARTICHOKE

Artichokes are packed with a host of disease-fighting nutrients known to ward off liver dysfunction, high cholesterol, and diabetes. These include quercetin, rutin, gallic acid, and cynarin.





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Avoiding the Catastrophic Event



BY WILLIAM FALOON



A question we are asked nowadays is, "What causes people to die who take extraordinary steps to remain healthy?"

Our response is that in many cases, there is <u>one</u> precipitating *catastrophic* event that ignites a cascade of degenerative changes that culminate in death.

A classic example is an otherwise fit elderly individual who sustains a **bone fracture**. The combination of trauma, systemic inflammation, loss of mobility, hospital confinement, and psychological stress can result in several diseases emerging that conspire to kill the victim in a relatively short time.

Catastrophic events are by no means limited to accidents. Surgical trauma or the impact of temporary loss of blood flow can also initiate a downward spiral from which an aging person never recovers.

Aortic stenosis is a *catastrophic* event that strikes aging individuals, but may be thwarted by a supplement that was introduced in **1999**. 1,2

It is too early to know for sure, but there is provocative evidence that what members *already* do to protect against **atherosclerosis** and **bone loss** also prevents <u>calcification</u> of the **aortic valve**.^{3,4}

The Aortic Valve

Blood exits the heart to nourish the body from the **left ventricle**. With each heartbeat, the aortic valve opens (to let blood out) and closes to enable the left ventricle to fill with fresh oxygenated blood from the lungs.

In aortic stenosis, the aortic valve narrows and does not open fully. The result is the left heart ventricle enlarges as it desperately tries to force blood out through the constricted aortic valve. If not treated surgically, the aortic valve may either constrict so tightly that blood cannot exit the heart, or congestive heart failure may set in as the left ventricle deteriorates in response to having to squeeze harder to push blood through the narrowed aortic valve.

In the case of aortic stenosis, the catastrophic life-threatening event can emanate from surgical trauma (which can inflict short- and long-term side-effects) and anticoagulant drugs like warfarin⁵⁻⁸

that will slowly poison a person to death if not used properly. Aortic valve replacement also increases stroke risk even with warfarin.9-11

There is no validated therapy other than surgery to reverse advanced aortic stenosis. Many doctors and their patients have valiantly tried but failed to remove the calcium deposits that constrict the aortic valve. Prevention of this potential catastrophic disease is thus crucial.

Prevalence of **Aortic Stenosis**

While 2-9% of people over age 65 are diagnosed with aortic stenosis,12 48% of those over age 85 have *aortic sclerosis*, which is the calcification and thickening of the valve without left ventricular constriction.13

Aortic sclerosis is considered a precursor for eventual constriction (obstruction of blood flow out of the heart) that is ultimately diagnosed as aortic stenosis. Most of those with aortic sclerosis succumb to another disease before frank stenosis manifests.

Historically, most cases of aortic stenosis were thought to result from the "wear and tear" of aging.14 This perception is changing.

Taking steps to protect against calcification and thickening of the **aortic valve** would be expected to significantly reduce stenosis risk in one's older years, when surgical procedures are of particular risk.

What Causes Aortic Calcification?

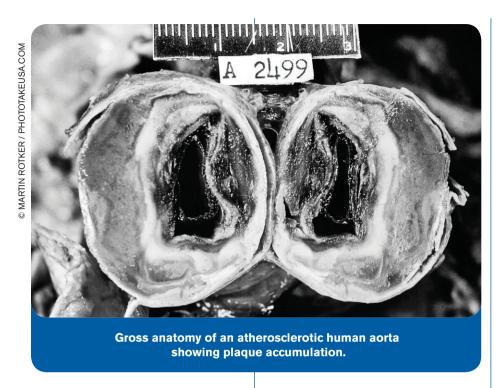
Calcium is *always* circulating in the blood. Our body goes to great lengths to maintain calcium blood levels in a very narrow range. Too much or too little blood calcium is invariably fatal. 15,16

Lining our arteries and heart valves is a protein that regulates whether or not circulating blood calcium infiltrates (calcifies) our vasculature. The name of this calcium-regulating protein is *matrix* gamma-carboxyglutamic acid. To avoid having to repeat this tonguetwister again, we will refer to it from now on as MGP.

MGP is synthesized in the vascular walls and plays a key role in regulating vascular calcification.7,17-19 Whether MGP allows vascular calcification or inhibits it depends on its state of carboxvlation. When MGP is under-carboxylated, vascular calcification spontaneously occurs. 18,20 When MGP is fully carboxylated, it functions as a potent inhibitor of vascular calcification.21-23

Carboxylation of MGP is dependent on vitamin K. In fact, MGP is classified as a vitamin K-dependent protein because it cannot shield against calcification without adequate **vitamin K**.^{1,24,25}





Epidemic of Systemic Calcification

In the aged population, **vascular calcification** is ubiquitous. Autopsy reports show that **75-95**% of men and women suffer some degree of vascular calcification.²⁶

Since **calcification** occurs in soft tissues throughout our body, including the kidneys, lungs, heart, and brain, this calcification epidemic is of great concern to those seeking to avoid a "catastrophic event" that precipitates a lethal downward spiral.^{27,28}

It is fortunate that we are not dependent on a future break-through discovery to protect against *vascular calcification* as it may be prevented by *correcting* a **vitamin K** deficiency.²⁹⁻³²

Human Clinical Data

An interesting study published in 2008 measured the amount of <u>under</u>-carboxylated **MGP** in the blood of healthy individuals and

compared it to those with severe vascular diseases including **aortic stenosis**. The findings showed that virtually <u>all</u> diseased subjects had <u>under</u>-carboxylated MGP levels below the normal adult range.²⁰ If only these individuals with severe vascular disease had maintained adequate **vitamin K status**, they may not have been on death's door.

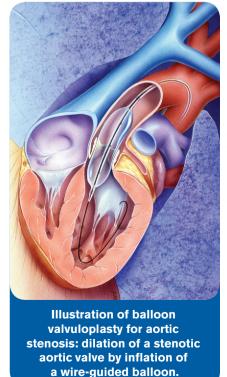
The most frequently cited data about vitamin K and vascular disease risk came from a study of more than 4,800 subjects who were followed for 7-10 years in the Netherlands. People in the highest **one-third** of vitamin K2 intake had a **57% reduction in risk of dying from cardiovascular disease**, compared to those with the lowest intake. In the group with the highest **vitamin K2** intake, risk of <u>severe</u> **aortic calcification** plummeted by **52%**.²

It is doubtful that *any* of these European study subjects were taking vitamin K supplements. This means that just the tiny microgram amounts obtained in their diets is

what may have produced this **52**% reduction in risk of severe aortic calcification.

Based on findings that maximal *carboxylation* of **MGP** requires significantly <u>higher</u> levels of **vitamin K** than obtained through diet, those taking vitamin K supplements might obtain greater benefit.³³⁻³⁶

The missing part of this puzzle is controlled clinical studies showing that vitamin K supplements themselves prevent aortic stenosis. Instead, we rely on intriguing clinical data that consistently show low vitamin K status in those who develop aortic valve calcification.^{1,35-37} We know that vitamin K is essential for MGP-carboxylation, which in turn shields heart valves and arteries from pathological calcification.³⁷ We also know that vascular calcification is an active and therefore potentially preventable process if **vitamin K** intake is increased.38,39



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Europeans Have Access to Less Invasive Technique

Since **2007**, Europeans have had an option to avoid the horrific surgical trauma associated with aortic valve replacement.⁴⁰

Instead of open heart surgery, a balloon catheter carrying a highly compressed bovine tissue replacement valve is inserted into an artery in the leg and threaded to the heart. Once the catheter reaches the beating heart, the balloon inflates and secures the new valve in place to replace the calcified aortic valve. Patients are functional within days as opposed to sometimes months of recuperation required for conventional open heart procedures. In addition to improved survival, patients experienced substantially better quality of life afterwards.⁴¹

This method is being used around the world, but the **FDA** has not yet approved it. This is unfortunate as many elderly Americans are so sick that they cannot qualify for open heart surgery, and if they do, they may die from surgical complications.

By way of real world example, an 88-year-old relative of this magazine's editor was told by her cardiologist that she had only a short time to live if she did not have her aortic valve replaced. She was taken to four different surgeons in New York City, who all wanted to do conventional open heart surgery. There are many concerns with a person this age, including cognitive deficits that occur in many patients placed on heart-lung machines and heightened risk of pneumonia and other infections during the long recovery phase.

Dr. Michael Ozner, a member of Life Extension's Scientific Advisory Board,

informed our editor of the PARTNER trial in which surgeons were inserting a bovine tissue valve with a cobalt-chromium frame via catheter <u>without</u> open heart surgery. None of the top-rated surgeons who were initially visited were aware of this new procedure. The editor found that there was a trial location in New York at **Columbia-Presbyterian Hospital**. His relative was enrolled in the program not knowing if she would be randomized for open heart surgery or this new procedure. Fortunately, she was chosen to be a part of the experimental group and was spared open heart surgery. The procedure was done on Thursday, she was up and walking on Friday, and was home on Monday. Two years after



the procedure and now approaching age 91, she continues to work out with her trainer and takes her supplements. Equally as impressive, she does not need to take Coumadin® or other anti-coagulant drugs that mechanical valve patients require for life. Coumadin® increases vascular calcification and accelerates osteoporosis by depleting vitamin K.⁴²

The PARTNER trial reported preliminary results on April 3, 2011, at the annual meeting of the American College of Cardiology. The study compared 699 elderly patients. Half received the catheter-inserted aortic valve while the other half received an openheart surgery-implanted valve. The overall death rate was slightly lower at one year for the group receiving the catheter-implanted valve, though there were twice as many major strokes in the catheter-implanted group in the post-surgical period. ⁴³ Doctors anticipated improvements in future versions would reduce stroke risk.

The study is scheduled to enroll a total of 1,040 patients with a completion date anticipated in year **2014**.

If you or someone you know needs aortic valve replacement surgery, you can find out about clinical trials being conducted throughout the United States by logging on to www.lef.org/aortic.

Other Factors Involved in Aortic Stenosis

Like the modern day scourge of atherosclerosis, there are many risk factors for aortic stenosis.

While the majority of individuals who develop coronary atherosclerosis do not suffer aortic stenosis. the two diseases nonetheless share common risk factors.44

Those with elevated LDL,45-47 triglycerides, 48,49 total cholesterol, 50-53 and other atherogenic lipids have higher rates of aortic stenosis. Elevated C-reactive protein levels are also correlated with aortic valve disease.54,55

Underlying conditions that predispose people to coronary atherosclerosis such as hypertension,56-59 smoking,60,61 and diabetes⁶²⁻⁶⁴ have been consistently linked to the development of aortic stenosis.

Other factors associated with aortic stenosis include osteoporosis, which is also strongly associated with vitamin K deficit. 65-71 Those suffering from elevated blood calcium,72,73 obesity,60,61,74 and renal failure75-77 have higher incidences of aortic stenosis, which is why annual blood testing is so important to identify correctable problems before irreversible disease takes hold.

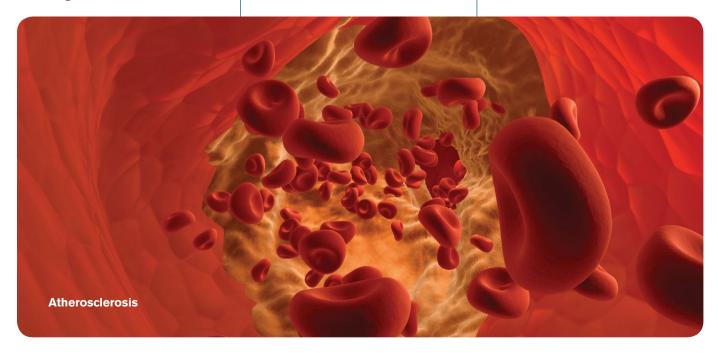
Please remember that the use of calcium supplements is not the cause of increased blood calcium levels. Healthy persons have an intricate regulatory system that precisely controls how calcium is utilized in the body. When calcium is deficient in the blood, parathyroid hormone acts to remove it from the bone to ensure blood levels are maintained.78

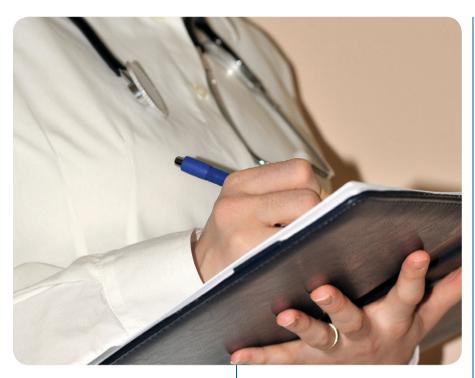
Without adequate calcium intake, parathyroid hormone will continue to remove calcium from bone to the point that a person becomes **osteoporotic**. Since calcium is required for vital life functions beyond bone density, the body will continuously rob bones of calcium to ensure stable blood levels if there is not sufficient intake from diet or supplements. So the body makes sure there is always enough calcium in the blood to sustain vital life functions. The side effect of the body's vigilant maintenance of blood calcium is that this calcium is freely available to calcify tissues (including our heart valves).

In the presence of enough vitamin K, however, calcium binds to the skeletal matrix where it is needed to maintain bone density and is simultaneously inhibited from infiltrating the vasculature (including arteries and valves).⁷⁹⁻⁸¹

Risk Factors for Aortic Stenosis Overlooked by Most Doctors

In order for calcium to infiltrate the aortic valve, there is first an initial injury to the endothelium (inner vascular lining).82,83 **Homocysteine** is a prime culprit that causes the initial endothelial injury that leads to atherosclerosis and possibly aortic stenosis later in life.83-85 What conventional doctors fail to acknowledge today is homocysteine's role in initiating damage to the vascular system.





A group of doctors at the Cleveland Clinic assessed the association between homocysteine levels and various degrees of aortic valve disease in 76 surgical patients. In patients with normal aortic valves, mean homocysteine level was 10.9 (umol/L). Patients with aortic sclerosis had homocysteine mean levels of 11.4. Those with the more severe *aortic steno*sis had a significantly higher mean homocysteine level of 15.4! While the small size of this study limited its predictive value, the doctors stated, "It is conceivable that the elevated homocysteine levels seen in patients with renal impairment or older age could contribute to the more rapid progression of aortic stenosis observed in these patient populations."83

The take-home lesson for anyone concerned about aortic stenosis is that virtually every risk factor for heart attack—be it excess body weight, hypertension, excess blood lipids, and even continued tobacco use—predicts the rate of aortic disease progression.

Triumphs and Tragedy of Jack LaLanne

In December 2009. Jack LaLanne at age 95 underwent aortic valve replacement surgery. A little over 13 months later, he died at age 96 of respiratory failure due to pneumonia. Even in healthy elderly individuals, the traumatic impact of aortic valve surgery can be the "catastrophic event" that leads to a rapid downward spiral culminating in death.

There may never be a better example than Jack LaLanne of someone who did virtually everything right, but appears to have missed out on one key nutrientvitamin K2—that may have prevented calcification of his aortic valve. Jack LaLanne was a pioneer hero who promoted and followed very healthy lifestyle practices decades before others knew about them.

When Jack LaLanne first proposed intensive exercise with

Famous Individuals Who Had Aortic Valve Surgery









Robin Williams, Barbara Walters, Ed Koch, and Barbara Bush

are some famous people who developed aortic stenosis and required valve replacement surgery.

weights in 1936, mainstream doctors warned that it would cause all kinds of terrible medical problems. This was the same medical establishment who said cigarette smoking was not dangerous. Jack LaLanne not only promoted lifelong physical activity, but also calorie moderation and avoiding all unhealthy foods.

Jack LaLanne's last book was published in **2003**. The supplement regimen he recommended, however, appears to have been trapped in 1970s ideology. He mentioned the importance of vitamin K1 only in the context of normal blood clotting and recommended green leafy vegetables as the main source. We now know, of course, that almost everyone obtains enough vitamin K for their blood to clot, but not nearly enough vitamin K2 to protect against soft tissue calcification.

As we often observe with elderly individuals, they tend to remember facts dating back decades but find

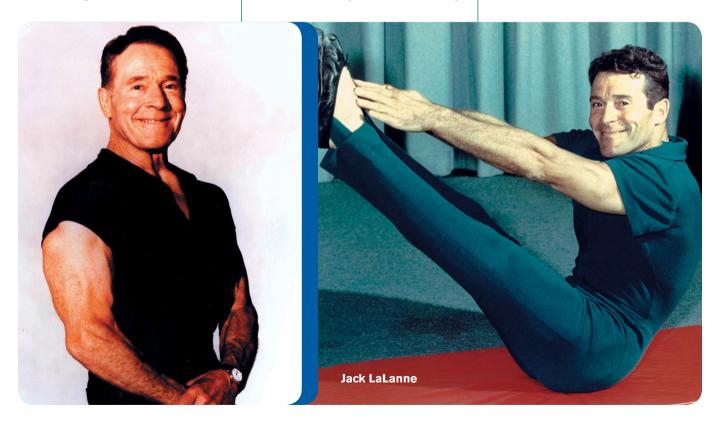
new concepts difficult to grasp. Out of enormous respect for Jack LaLanne being scientifically ahead of his time regarding healthy eating and exercise, nowhere in his last book is there any mention about other critical steps that aging men should follow, such as maintaining vouthful hormone balance. Low DHEA, for example, can compromise immune function,86-90 and the pneumonia Jack LaLanne acutely died of is common in elderly individuals with weakened immunity.

We don't know what supplements Jack LaLanne was using, but based on the recommendations made in his last book, there was no mention of omega-3s, CoO10, amino acids like carnitine, dipeptides like carnosine, vitamin K2, higher-dose vitamin D, or many of the other nutrients that enlightened individuals take today.

In reading Jack LaLanne's last book (titled Revitalize Your Life), I can confidently state that if every-

one in America followed his strict dietary and exercise programs, incidence of today's major killers would plummet to extremely low levels. Jack LaLanne's stern recommendations to avoid junk and other unhealthy foods alone could bail this country out of the health care cost crisis it now faces.

At the same time we pay tribute to Jack LaLanne's foresight, we must acknowledge the lethal consequence of omission. New information is published daily that provides *clues* as to what aging individuals can do to prevent the lethal "catastrophic event" that initiates a downward spiral of endless degenerative disease. When these clues become substantiated in well-controlled human studies, it is imperative for aging individuals to incorporate them into their own daily programs. We fear Jack LaLanne's omissions may have created his personal catastrophic event.





Life Extension Members Enjoy Significant Protection

The encouraging news for longtime Life Extension members is that they have been way ahead of the curve in protecting against aortic stenosis. Annual blood tests enable them to take affirmative steps to suppress excess **C-reactive** protein, LDL, homocysteine, triglycerides, glucose, and other vascular system-destroying factors.97

Members also ingest highpotency supplements that provide 24-hour blood levels of critically important vitamin K2. Longacting vitamin K2 is emerging as an exciting player in the prevention and potential regression of coronary atherosclerotic plaque.

According to some researchers, vitamin K2 has so many functions not associated with vitamin **K1** that it should be viewed as a different vitamin entirely. In the largest human study to date, higher intakes of vitamin K2 reduced cardiovascular issues by 57%, whereas intake of vitamin K1 had no effect.² Those following certain vegetarian diets may not be getting enough vitamin **K2**, thus exposing themselves to significant calcifica**tion** disease risk even though they assume they are eating healthy.

What is not yet known is whether higher intakes of vitamin K2 will reverse aortic calcification. Based on what has been published to date, there is a considerable basis to believe it will inhibit calcification in tissues throughout our aging bodies, thus reducing our odds of encountering the "catastrophic event" that could prematurely terminate our lives.

For longer life,

William Faloon

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The **US Department of** Agriculture lists the following foods with the highest vitamin K2 content:93-95

K1 converts to a long-acting

vitamin K around the clock to

shield itself from calcification.

form of vitamin K2 called

MK-7.92 The body needs

Hard cheese Soft cheese Egg volk Butter Chicken liver Salami Chicken breast Ground beef Natto

Aside from natto (which few Americans can tolerate from a taste standpoint), the vitamin K2-rich foods listed above are considered unhealthy. So those who try to follow healthy diets that involve eating lots of vegetables in place of foods high in saturated fat and cholesterol are unwittingly setting themselves up for systemic calcification due to deficiency of vitamin K2.96 Low-cost vitamin K2 supplements are widely available to thwart this deficit.



MALE AND FEMALE BLOOD TEST PANELS

Unlike commercial blood tests that evaluate only a narrow range of risk factors, Life Extension's **Male** and **Female Blood Test Panels** measure a wide range of blood markers that predispose people to common age-related diseases. Just look at the **huge** numbers of parameters included in the **Male and Female Blood Test Panels**:

MALE PANEL

LIPID PROFILE

LDL (low-density lipoprotein) calculated HDL (high-density lipoprotein)

Triglycerides
Total Cholesterol

CARDIAC MARKERS

C-Reactive Protein (high sensitivity) **Homocysteine**

HORMONES

DHEA-S

Free Testosterone

Total Testosterone

Estradiol (an estrogen)

TSH (thyroid function)

Sex Hormone-Binding Globulin (SHBG)

METABOLIC PROFILE

Glucose

Kidney function tests: creatinine, BUN,

uric acid, BUN/creatinine ratio

Liver function tests: AST, ALT, LDH, GGT,

bilirubin, alkaline phosphatase

Blood minerals: calcium, potassium, phosphorus, sodium, chloride, iron **Blood proteins:** albumin, globulin, total protein, albumin/globulin ratio

COMPLETE BLOOD COUNT (CBC)

Red Blood Cell count including: hemoglobin,

hematocrit, MCV, MCH, MCHC, RDW

White Blood Cell count including:

lymphocytes, monocytes, eosinophils, neutrophils, basophils

Platelet count

CANCER MARKER

PSA (Prostate Specific Antigen)

FEMALE PANEL

LIPID PROFILE

LDL (low-density lipoprotein) calculated **HDL** (high-density lipoprotein)

Triglycerides

Total Cholesterol

CARDIAC MARKERS

C-Reactive Protein (high sensitivity) **Homocysteine**

HORMONES

Progesterone

DHEA-S

Free and Total Testosterone

Estradiol (an estrogen)

TSH (thyroid function)

Sex Hormone-Binding Globulin (SHBG)

METABOLIC PROFILE

Glucose

Kidney function tests: creatinine, BUN,

uric acid. BUN/creatinine ratio

Liver function tests: AST, ALT, LDH, GGT,

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Blood minerals: calcium, potassium, phosphorus, sodium, chloride, iron **Blood proteins:** albumin, globulin, total protein, albumin/globulin ratio

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Red Blood Cell count including: hemoglobin,

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White Blood Cell count including:

lymphocytes, monocytes, eosinophils, neutrophils, basophils

Platelet count

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Then—at your convenience—you can visit one of the blood-drawing facilities provided by LabCorp in your area. (Restrictions apply in NY, NJ, RI, MA)

If you plan to use the result of these blood tests to assist in a medically supervised weight loss program, consider ordering the Male or Female Weight Loss Panel for the member price of \$299. These panels were designed to offer additional hormones for those desiring assistance with weight loss.

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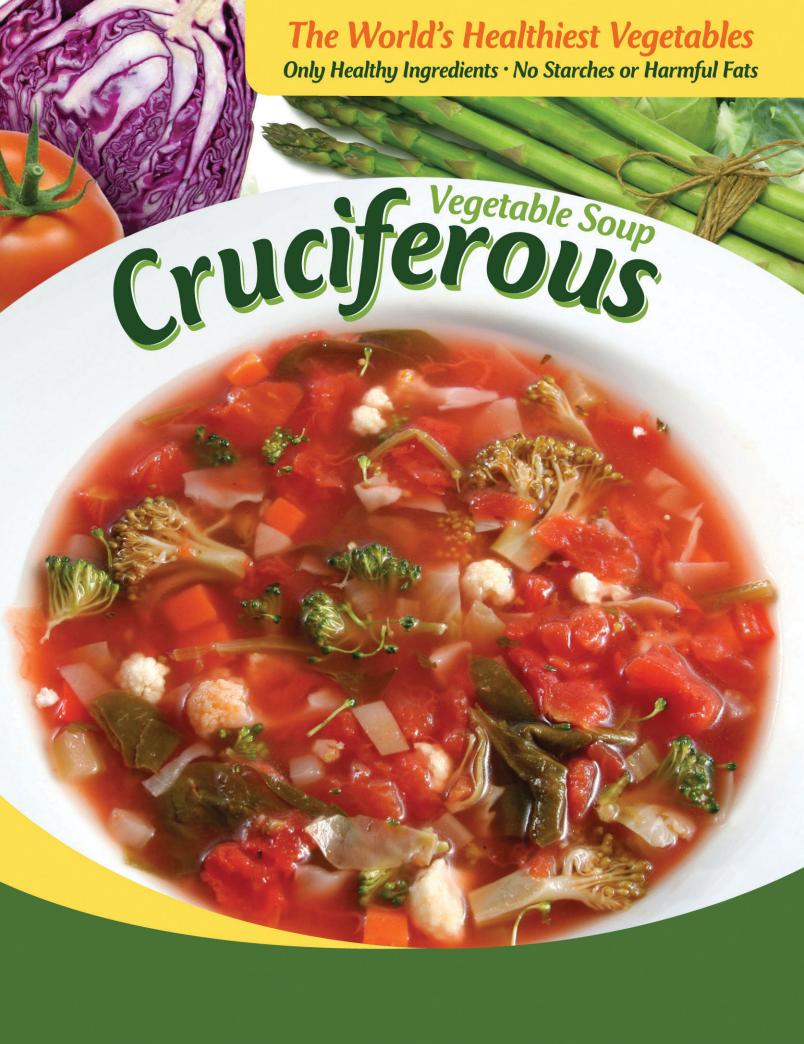
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Processed food companies sell vegetable soups so cheaply because they load them with high-glycemic carbohydrates (rice, potatoes, pasta) that cost virtually nothing. They then add inexpensive ingredients like corn, sugar, and sometimes omega-6 fats (like cottonseed oil). So for less than \$2, you get a relatively high-carb-calorie soup that provides virtually no health benefits.

Life Extension® has formulated two vegetable soups that contain only healthy ingredients, including loads of cruciferous vegetables (cauliflower, broccoli, cabbage, etc.), extra-virgin olive oil, and a host of other beneficial plant foods.

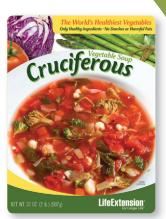
Each serving of **Cruciferous Vegetable** and Asian Cruciferous Vegetable soup contains only 80 to 90 calories of the best-documented foods to maintain your precious health. You can consume the entire contents as a healthy lunch or dinner, or use a smaller portion of the soup as part of a meal for you (or several people).

Each **80-90 calorie** serving of these new soups provides a **full serving** of the world's healthiest vegetables. The entire pouch supplies about 3.5 servings of these vegetables—with none of the cheap starch fillers found in commercial soups.

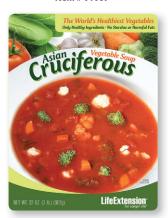
The retail price of either the **Cruciferous** Vegetable or Asian Cruciferous Vegeta**ble** soups is \$11.95. Member price is **\$8.96**. If a **Life Extension**® member purchases any assortment of six pouches, the price is reduced to \$8.44 per pouch.

> To order your fresh supply of Life Extension's

Cruciferous Vegetable or the Asian Cruciferous Vegetable soups, call 1-800-544-4440 or visit www.lef.org/soup



Item # 01089



Item # 01090

Souper tasty. Souper Satisfying.

You know you don't eat enough veggies. So Life Extension® cooked up a convenient, tasty way to spoon-feed you these souper foods.

These soups provide unique garden-fresh ingredients, such as cruciferous vegetables, tomatoes, carrots, and other beneficial plant foods plus heart-healthy extra virgin olive oil.

You can consume the entire contents as a lunch or dinner, or use a smaller portion as a starter. The convenient resealable package will help keep your soup fresh and fresh tasting, and without the BPA found in many canned soups

Each of these soups provides:

A full serving of vegetables per serving (or about 3.5 servings of healthy vegetables per pouch)

Less than 100 calories per serving

No added starches, preservatives, or sugars!

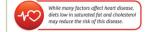
Excellent source of cruciferous vegetables

Low total fat per serving

No saturated fat or cholesterol

Og trans fat





Cruciferous **Vegetable Soup**

Serving Size 1 cup (245g)

Amount Per: Calories 90		ries from	Eat 20
Calories 90	Calo	*** CONTRACT US	CONTRACTOR OF THE
			y Value *
Total Fat		3g	5%
Saturated	Fat	0g	0%
Trans Fat		00	1
Cholester	ol	0mg	0%
Sodium		190mg	8%
Total Carbo	ohydrate	120	4%
Dietary Fib	er	20	8%
Sugars		80	1
Protein		39	1
Vitamin A 8	0% •	Vitamin	C 80%
Calcium 6%	6	Iron 10%	6
*Percent Daily V	alues are ba	ased on a 2	,000
calorie diet. You			
lower depending	70 0		
	Calories:	2,000	2,500
Total Fat	Less than	65g	80g
Saturated Fat		20g	25g
Cholesterol	Less than		300mg
0 - 1			
Sodium Total Carbohydr	Less than	300g	375a

Ingredients: Diced Tomatoes in Juice (tomatoes, tomato juice, citric acid, calcium chloride), Water, Tomato Paste, Carrots, Celery, Cauliflower, Green Cabbage, Red Cabbage, Broccoli, Spinach, Brussels Sprouts, Chicken Broth, Asparagus, Extra Virgin Olive Oil, Red Bell Pepper, Garlic, Parsley, Thyme, Basil, Bay Leaf, Black Pepper.

Fat 9 • Carbohydrates 4 • Protein 4

Asian Cruciferous Vegetable Soup

Nutrition Facts

Serving Size 1 cup (245g) Servings Per Container about 3.5

Amount Per Serv	ing		
Calories 80	Calor	ies from	Fat 20
		% Daily	Value *
Total Fat		2g	3%
Saturated Fat		0g	0%
Trans Fat		0g	
Cholesterol		0mg	0%
Sodium		210mg	9%
Total Carbohy	drate	12g	4%
Dietary Fiber		2g	8%
Sugars		8g	
Protein		3g	
Vitamin A COO	• \	litamin C	000/

Vitamin A 60% • Vitamin C 80% Calcium 4% Iron 10% *Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs:

	Calories:	2,000	2,500
Total Fat	Less than	65g	80g
Saturated Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Total Carbohydr	ate	300g	3750
Dietary Fiber		25g	30g

Ingredients: Diced Tomatoes in Juice chloride), Water, Tomato Paste, Bok Choy, Broccoli, Red Cabbage, Cauliflower, Carrots, Onion, Red Bell Pepper, Green Onion, Chicken Broth, Extra Virgin Olive Oil, Cilantro, Garlic, Pepper Sauce (aged red peppers, distilled vinegar, salt), Ginger, Black Peppe



There are **three** forms of **vitamin K** that the human body can utilize to promote **arterial health** and **bone support**. 1-8

Life Extension®'s Super K with Advanced K2 Complex provides the dynamic trio of vitamin K forms in one softgel, including vitamin K1, vitamin K2 (MK-4), and vitamin K2 (MK-7).

Vitamin K1 is the form of vitamin K that is found in green vegetables. **K1** is tightly bound to plant fiber, so only a fraction is *absorbed* into the bloodstream. Supplementation ensures ample **K1** blood levels.

Vitamin K2 is usually found in meats, dairy, and egg yolks. Since you may be avoiding these foods for health reasons, ingesting a **K2** supplement is *essential*. **MK-4** is the most *rapidly absorbed* form of **K2**, and **MK-7** boasts a very *long half-life* in the body, making both forms the *perfect complement* to any **vitamin K** regimen.⁹

The retail price for a bottle containing **90 softgels** (three-month supply) is \$26. If a member buys four bottles, the price is reduced to just **\$17.25 per bottle**.

Super K formula provides in just one daily softgel:

Vitamin K1	1000 mcg
Vitamin K2 (MK-4)	1000 mcg
Vitamin K2 (MK-7)	100 mcg

Item #01224

The same **Super K** formula consisting of Vitamin K1, K2 (MK-4) and K2 (MK-7) can be found in the **Life Extension® Super Booster**. If you take the **Super Booster**, you do not need additional **Super K softgels**.

Contains tree nuts (coconut).

Warning to Coumadin® (warfarin) Drug Users

Patients prescribed vitamin K-antagonist anti-coagulant prescription drugs like warfarin should consult their physician before taking vitamin K supplements like Super K and Super Booster. There is evidence, however, that users of drugs like warfarin could benefit from a consistent low dose of supplemental vitamin K. Ask your doctor if you can take a low doc4 for go a day) of vitamin K2 in the long-acting MK-7 form for the purpose of stabilizing your INR levels and also protecting your body against long-term vitamin K deficit. Do not initiate any form of vitamin K supplementation without full cooperation of

long-term vitamin K deficit. Do not initiate any form of vitamin K supplementation without full cooperation of your treating doctor, as your doctor may need to increase your dose of warfarin to compensate for the vitamin k you supplement with. Life Extension provides several forms of low-dose vitamin K for physician consideration.

To order Super K or Super Booster, call 1-800-544-4440 or visit www.LifeExtension.com

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These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease





IN THE NEWS

Garlic and Grape Seed Supplementation Associated with Fewer Blood Cancers

An article published in the journal Cancer Epidemiology, Biomarkers & Prevention

reveals a link between increased use of garlic or grape seed supple-

ments and a lower risk of hematologic malignancies, including Hodgkin and non-Hodgkin lymphomas, and leukemia.*

Researchers examined data from 66.227 men and women enrolled in the VITamins And Lifestyle study. Responses to questionnaires completed between

2000 and 2002 were used to estimate the ten year average daily dose of each supplemental vitamin, mineral or specialty supplement consumed prior to enrollment.

Five hundred eighty-eight hematologic malignancies were identified among the subjects through December 2008. Among those who reported using garlic supplements for at least four days a week over three or more years, there was a 45% lower adjusted risk of a hematologic cancer compared to those who reported no use. For grape seed, the risk was 43% lower in those who reported ever using the supplement compared to nonusers.

Editor's Note: Daily use of multivitamin supplements for at least eight years was associated with a non-significant 20% lower risk of hematologic malignancies in comparison with no use.

-D. Dye

* Cancer Epidemiol Biomarkers Prev. 2011 Aug 23.

Omega-3 Fatty Acid Supplementation Associated with Decreased Cognitive Decline in Older Men and Women

An article published in *The Journal of Nutrition*, Health & Aging establishes a link between the use of omega-3 fatty acid supplements and a reduced risk of cognitive impairment.*

The current study sought to determine the association of omega-3 from supplements with the development of cognitive decline. Researchers at National University of Singapore analyzed data from 1,475 participants in the Singapore Longitudinal Aging Studies who did not have dementia upon enrollment. Questionnaires

administered at the beginning of the study were analyzed for the frequency of omega-3 fatty acid supplement use and for the intake of fish, from which these fatty acids are derived. Cognitive performance was evaluated at enrollment and at a median of 1.5 years later.

Compared to those who did not report daily supplementation, those who supplemented had a 63% lower adjusted risk of being diagnosed with cognitive decline over follow-up.

-D. Dye

* J Nutr Health Aging. 2011;15(1):32-5.

IN THE NEWS

Meta-Analysis Affirms Efficacy for Zinc Lozenges in Common Cold

The outcome of a meta-analysis published in the *Open Respiratory Medicine Journal* concludes that zinc lozenges are beneficial in reducing the length of colds if the mineral is available in sufficient quantities.*

Dr. Harri Hemilä of the University of Helsinki selected thirteen placebo-controlled trials examining the effects of zinc lozenges on cold duration. Three trials tested zinc acetate and five trials tested other forms of zinc in daily doses of greater than 75 milligrams. The remaining five trials evaluated the use of lozenges that contained lower doses of the mineral.

While pooled analysis of the five trials that analyzed the effects of less than 75 milligrams zinc found no benefit, zinc acetate consumed in doses higher than 75 milligrams per day was associated with a 42% reduction in cold duration. Consuming more than 75 milligrams of other forms of zinc was associated with a 20% decrease in the length of colds.

Editor's Note: Although no long-term adverse effects were observed, high doses of zinc consumed for extended periods of time are not recommended. Nevertheless, Dr. Hemilä remarks that 150 milligrams per day of zinc has been administered for therapeutic uses for months or years in specific patients, and that a trial involving six weeks of supplementation at this level failed to result in a deficiency of copper (a potential side effect of prolonged intake of high amounts of zinc).

-D. Dye

* Open Respir Med J. 2011;5:51-8.



Antioxidants Show Potential for Infertility

An analysis published online in the journal *Pharmacological Research* reviews the role of antioxidants in the treatment of infertility issues in men and women and concludes that the compounds show significant promise via their effects on vascular function.*

"While the direct effects of antioxidant treatment on the quality of semen and oocytes are still under investigation, a significant body of evidence points to loss of vascular tone as a root-cause of erectile dysfunction and, possibly, alterations to female reproduction," write authors Francesco Visioli and Tory M. Hagen.

The authors remark that nitric oxide synthesis and bioavailability, which play a major role in vascular function, are impaired by compounds known as free radicals. These damaging molecules can be controlled, in part, by increasing the availability of the controlled.

ity of antioxidants. While commonly supplemented antioxidants, including vitamins C and E, may be helpful, other antioxidants, such as lipoic acid, may have a more profound benefit.

Editor's Note: Dr. Hagen added that treatment with antioxidants, "Might help prevent other critical health problems as well, at an early stage when nutritional therapies often work best."

–D. Dve

* Pharmacol Res. 2011 Jul 1.

Protein Supplementation Lowers Blood Pressure

In an article published online in *Circulation: Journal of the American Heart Association*, Jiang He, MD, PhD, and associates report the outcome of a crossover trial which found that milk and soy protein supplements lower systolic blood pressure among those in the early stages of hypertension.*

A team led by Dr. He divided 352 adults with prehypertension or stage 1 high blood pressure to receive 40 grams of soy or milk protein, or a refined carbohydrate supplement daily for eight weeks, followed by a three week wash-out period in which no supplements were given. The subjects then participated in two additional treatment phases in which they received supplements that had not previously been administered.

The trial revealed a reduction in systolic blood pressure associated with protein, but not carbohydrate, supplementation. "The systolic blood pressure differences we found are small for the individual, but they are important at the population level," Dr. He stated.

Editor's note: The authors remark that the study's findings suggest that partially replacing carbohydrate with soy or milk protein could become part of a nutritional intervention to help prevent or treat high blood pressure.

-D. Dye

* Circulation. 2011 Jul 18.



Meta-Analysis Adds Evidence to Association Between **Omega-3 Supplementation** and Homocysteine Reduction

The outcome of a meta-analvsis of 11 trials published in the journal Nutrition uncovered a significant reduction in plasma homocysteine in association with greater intake of omega-3 polyunsaturated fatty acids.*

Researchers in China pooled the results from 702 participants in randomized trials that compared the effects of supplementation with omega-3 fatty acids to a placebo. Treatment periods ranged from 6 to 48 weeks, and doses varied between 0.2 and 6 grams per day.

The analysis confirmed a reduction in plasma homocysteine levels in association with omega-3 fatty acid supplementation, with an average decrease of 1.59 micromoles per liter experienced by those who supplemented compared to those who received a placebo.

"Our systematic review provides, to our knowledge, the most comprehensive assessment to date of the effects of omega-3 polyunsaturated fatty acids on plasma homocysteine," the authors announce.

Editor's Note: The authors suggest modulation of gene expression of enzymes involved in the formation and metabolism of plasma homocysteine as a possible mechanism of action for omega-3.

-D. Dye

* Nutrition. 2011 Sep;27(9):863-7.

IN THE NEWS

Green Tea Intake Shows Protective Effect Against Flu

In addition to ensuring optimal intake of vitamins C and D during the upcoming flu season, it may be wise to regularly indulge in a soothing pot of green tea, according to the results of a Japanese study published in the Journal of Nutrition.*

Researchers at the University of Shizuoka conducted surveys of 2,050 pupils during influenza season from 2008 to 2009. The responses provided information concerning the quantity of green tea intake, preventive measures taken against influenza, and the incidence and duration of infections.

Among children who reported drinking tea at least six days per week there was a 40% lower risk of being diagnosed with influenza compared to those who consumed tea fewer than three days per week. Subjects who consumed three to five cups per day had a 46% lower risk of contracting flu in comparison with those who consumed less than one cup daily.

Editor's Note: "Contrary to the results of green tea consumption, general preventive measures (such as influenza vaccination, hand hygiene, and the use of facemasks) were not associated with the incidence of influenza infection," the authors remark.

-D. Dve

* J Nutr. 2011 Aug 10.

CoQ10 Levels Reduced in Septic Shock

An article published in the journal Critical Care documents the finding of decreased levels of coenzyme Q10 (CoQ10) in patients with septic shock.*

Harvard researchers utilized data from 14 patients with septic shock who participated in a placebo-controlled trial of statin drugs. Blood samples drawn from the septic patients prior to treatment and from 16 healthy controls were analyzed for coenzyme Q10, low-density lipoprotein (LDL), and vascular endothelial and inflammatory markers.

While the control group had a median CoQ10 level of 0.95 micromoles per liter, which is similar to levels previously measured in healthy patients, the median baseline level for those with septic shock was 0.49 micromoles/liter. Higher CoQ10 levels were associated with lower levels of vascular endothelial biomarkers and inflammatory cytokines, although only vascular cell adhesion molecule (VCAM) and interleukin-10 remained lower following the adjusted analysis.

Editor's Note: Sepsis is an inflammatory state resulting from the spread of infectious agents in the bloodstream. Sepsis and septic shock are major causes of illness and mortality in the US, with over 215,000 deaths occurring each year.

-D. Dye

* Crit Care. 2011 Aug 9;15(4):R189.

IN THE NEWS



Omega-3 Users Are Different

The International Conference on Alzheimer's Disease was the site of a presentation by Lori Daiello, Pharm.D. of the finding of differences in brain structure between individuals who supplement with fish oil and those who

The current study included 819 participants in the Alzheimer's Disease Neuroimaging Initiative, which conducted periodic brain magnetic resonance imaging and memory testing on older adults with normal cognitive function, mild cognitive impairment and Alzheimer's disease over a three year period. Dr. Daiello and her colleagues compared data obtained from 117 men and women who reported regular fish oil supplement use with data from 702 nonusers.

The team found greater brain volume and better cognitive function over follow-up in fish oil users who did not test positive for the APOE4 gene, which is a risk factor for Alzheimer's disease. "In other words, fish oil use was associated with less brain shrinkage," Dr. Daiello stated.

Editor's Note: Fish oil contains the omega-3 fatty acids eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA). which have been associated with improved cognitive function.

-D. Dye

* Alzheimer's Association 2011 International Conference on Alzheimer's Disease, July 16-21, 2011, Paris.

Saffron Prevents Liver Cancer in Animal Model

In the journal *Hepatology*, Arab researchers report a protective effect for saffron against cancer of the liver in rats.*

Amr Amin and colleagues divided 48 rats into six groups. Liver tumors were induced in four of the groups by the administration of DEN, a potent carcinogen. While one group given DEN received no additional treatment, the three other groups received varying doses of saffron beginning two weeks prior to injection with the carcinogen. Rats that were not treated with DEN were given water or saffron throughout the course of the 20-week study.

Among rats that received the carcinogen, fewer of the saffrontreated animals had liver masses at the end of the treatment period in comparison with rats that were not pretreated, and the number of nodules detected was lower. No nodules were found in the rats that received the highest dose of saffron.

Editor's Note: In separate experiments in cultured liver cancer cells, the administration of saffron was shown to arrest growth and increase programmed cell death.

-D. Dye

* Hepatology. 2011 May 23.

Omega-3 Fatty Acid Protects Brain from Severe Stroke Damage

In an article published in the journal Stroke, researchers at Université Laval Quebec report that the administration of the omega-3 fatty acid docosahexaenoic acid (DHA), which occurs in fish oil, reduces damage caused by stroke in an animal model.*

The team gave male mice a diet supplemented with DHA, a diet deficient in omega-3 fatty acids, or a control diet for three months. Stroke was induced by middle cerebral artery occlusion, and the size of the damaged areas was assessed. Blood samples were analyzed for markers of inflammation and other factors.

Mice that were treated with DHA had areas of ischemic damage that were 25% smaller and higher levels of a molecule that prevents programmed cell death compared with the other groups. The DHAtreated animals also had lower levels of the inflammatory markers COX-2 and interleukin-1, as well as a higher ratio of omega-3 to omega-6 fatty acid levels.

Editor's Note: Co-author Frédéric Calon observed that "Since DHA is readily available, inexpensive, and reduces the risk of a number of health problems without causing significant side effects, the risk:benefit ratio tends to favor the regular consumption of fish or DHA."

-D. Dye

* Stroke. 2011 Aug 18.

THE ULTIMATE TWO-PER-DAY TABLET

The following table compares the daily dosage of key nutrients included in both the Life Extension® Two-Per-Day Tablet and Centrum®'s Daily Tablet:

SAMPLE INGREDIENT COMPARISON		TENSION ER-DAY	CENTRUM°
Vitamin C	500	mg	60 mg
Vitamin D	2,000	IU	400 IU
Vitamin B1	75	mg	1.5 mg
Vitamin B2	50	mg	1.7 mg
Vitamin B6	75	mg	2 mg
Vitamin B12	300	mcg	6 mcg
Niacin (as niacinamide)	50	mg	20 mg
Pantothenic acid	100	mg	10 mg
Vitamin E	200	IU (natural)	30 IU (synthetic
Natural Folate	400	mcg	400 mcg
Zinc	30	mg	11 mg
Selenium	200	mcg	55 mcg
Lutein	5	mg	(none)*
Lycopene	2	mg	(none)*
Biotin	300	mcg	30 mcg
Boron	3	mg	75 mcg
Chromium	200	mcg	35 mcg
Molybdenum	100	mcg	45 mcg
Magnesium	100	mg	50 mg
Manganese	2	mg	2.3 mg
lodine	150	mcg	150 mcg
Potassium	25	mg	80 mg
Vitamin A (preformed)	500	IU	1,015 IU
Vitamin A (as beta-carotene)	4,500	IU	2,485 IU
Choline (as bitartrate)	20	mg	(none)
Inositol	50	mg	(none)
PABA	30	mg	(none)
Calcium	12	mg	200 mg

Contains soybeans, rice, and corn.

CAUTION: Individuals consuming more than 2,000 IU/day of vitamin D (from diet and supplements) should periodically obtain a serum 25-hydroxy vitamin D measurement. Vitamin D supplementation is not recommended for individuals with hypercalcemia (high blood calcium levels).

For many years, Life Extension® members had to rely on commercial "one-a-day" supplements that provide very low potencies.

In response to requests for a science-based multi-nutrient, a special formula was compounded to provide the greatest potencies that can fit into two tablets. When compared to conventional "one-a-day" products, Life Extension Two-Per-Day contains up to 50 times more potency!

The box on this page reveals how much more potent the **Two-Per-Day** formula is compared to the leading commercial multi-vitamin. Few consumers realize that commercial supplements

often contain the cheapest form of nutrients that don't provide optimal benefits. For example, the 30 IU of synthetic vitamin E contained in Centrum® may provide relatively little vitamin E to the bloodstream. The 200 IU of natural vitamin E contained in Two-Per-Day thus provides about 7 times more vitamin E activity than does Centrum®.



Compared to Centrum[®], Two-Per-Day Tablets provide about:

Item # 01515

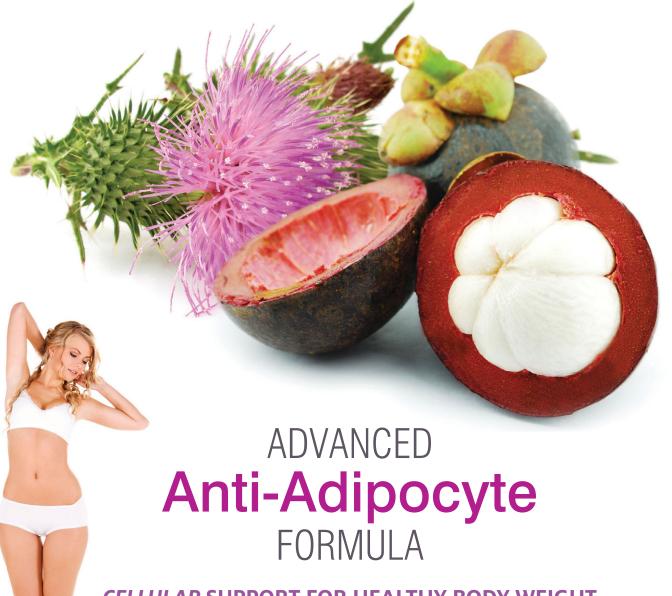
- 5 times more Vitamin D
- 8 times more Vitamin C
- 7 times more Vitamin E
- 10 times more Biotin
- 40 times more Boron
- 4 times more Selenium
- 37 times more Vitamin B6
- 50 times more Vitamin B1
- 50 times more Vitamin B12
- More than <u>twice</u> as much niacin, zinc, and many other nutrients

Life Extension Two-Per-Day Tablets provide much higher potencies of key nutrients and represent a better value than many commercial brands.

A bottle of 120 Life Extension Two-Per-Day Tablets retails for \$18.95. If a member buys four bottles, the price is reduced to \$12.75 per bottle. (The retail price for 180 tablets of Centrum® is around \$14.)

To order Life Extension Two-Per-Day Tablets, call 1-800-544-4440 or visit www.LifeExtension.com

^{*} Centrum* no longer contains significant amounts of lycopene nor lutein.



CELLULAR SUPPORT FOR HEALTHY BODY WEIGHT

If you're struggling to maintain healthy body weight, you're not alone. Up to **65%** of Americans face the same challenge. Even a modest increase in fat pounds can have an impact on overall health, especially when it's stubborn belly or visceral fat.

The problem is that conventional methods to combat *age-related* changes that predispose us to weight gain have proven *ineffective*. Adjustments in diet and lifestyle alone are often not enough. But there's hope . . .

State-of-the-Art Dual Plant Extract Technology

To help maturing individuals deal <u>effectively</u> with this serious health issue, **Life Extension**® introduces

a brand new, clinically validated solution: **Advanced Anti-Adipocyte Formula with AdipoStat**.

AdipoStat is the <u>first</u> dietary intervention to support healthy body weight using these innovative approaches.² Through multiple pathways, it targets the mechanisms by which fat-storing cells or *adipocytes* become bloated and metabolically dysfunctional.

This widely overlooked *cellular* condition leads to excess fat accumulations in the belly and throughout your body.

After careful scientific analysis of over **1,000** plant extracts,² researchers identified the <u>two</u> species included in **AdipoStat** that target adipocytes: **Sphaeranthus indicus** flower (S. indicus) and the **mangosteen** fruit (Garcinia mangostana).

Optimal results were shown in studies when these two **plant extracts** were <u>combined</u>.

Three Ways to Fight Fat Cell Derangements

AdipoStat functions via the following mechanisms to support healthy body weight:²

- 1. AdipoStat targets adipocyte (fat cell) creation.
- **2. AdipoStat** impedes adipocyte growth (adipogenesis).
- **3. AdipoStat** induces fat in adipocytes to break down (lipolysis).

Success in Clinical Trials

AdipoStat's performance in clinical studies indicates it can safely deliver impressive results.

In a key study, 30 adults with difficulty maintaining healthy body weight ingested **800 mg per day** of **AdipoStat** while following a 2,000-calorie-per-day diet and were asked to walk just 30 minutes five days a week. A group of equal size was given placebo.³

After just eight weeks, the AdipoStat group:

- Lost 4.05 inches of harmful belly fat—2.0 times the placebo group.
- Experienced a 2.05 drop in body mass index (BMI)—3.9 times over placebo.
- Shed 11.4 pounds of total body weight—3.7 times over placebo.

These improvements began to emerge after just <u>14</u> days.³ After eight weeks, the **AdipoStat** group saw a noticeable drop in **waist-to-hip ratio**,³ indicating they experienced **fat loss** in the **abdominal** area, where excess fat mass is associated with serious health issues.

They <u>also</u> exhibited favorably elevated levels of a hormone called *adiponectin*.² Adiponectin sends command signals that determine how big your fat cells get, how much they break down (*lipolysis*), and how often they are produced (*adipogenesis*).⁴

A second human clinical trial yielded similar results, confirming **AdipoStat's** beneficial effects.²

The AdipoStat Formulas

There are two ways you can easily incorporate **AdipoStat** into your daily supplement program.

The first option is to take **AdipoStat** by itself. The daily dose of <u>one</u> vegetarian capsule of **Anti-Adipocyte Formula with AdipoStat** taken 30 minutes before each of the two heaviest meals of the day provides:

The second option enables consumers to obtain the same dose of **AdipoStat** along with the highly popular **Integra-Lean**® (*Irvingia gabonensis*). **Irvingia** operates via additional mechanisms to combat surplus fat storage, including inhibition of *glycerol-3-phosphate dehydrogenase*, an enzyme involved in the conversion of glucose and triglycerides into adipocyte fat storage.

The Advanced Anti-Adipocyte Formula with AdipoStat and Integra-Lean® African Mango Irvingia supplies 800 mg of AdipoStat and 300 mg of proprietary *Irvingia* extract in the same suggested daily serving of <u>one</u> vegetarian capsule before each of the two heaviest meals.



Anti-Adipocyte Formula with AdipoStat

Item # 01510

A bottle containing **60** vegetarian capsules of **Anti-Adipocyte Formula with AdipoStat** retails for \$35. If a member buys four bottles, the price is reduced to just **\$24** per bottle.



Advanced Anti-Adipocyte Formula with AdipoStat and Integra-Lean® African Mango Irvingia Item # 01509

A bottle containing 60 vegetarian capsules of Advanced Anti-Adipocyte Formula with AdipoStat and Integra-Lean® African Mango Irvingia retails for \$39. If a member buys four bottles, the price is reduced to just \$27 per bottle.

Integra-Lean® Irvingia is protected by U.S. Patent No. 7,537,790. Other patents pending, AdipoStat is a proprietary ingredient derived from natural plant extracts exclusively distributed by InterHealth N.I.

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To order either of the Anti-Adipocyte Formulas call 1-800-544-4440 or visit www.LifeExtension.com

CAUTION: Because this product may lower blood glucose, consult your healthcare provider before taking this product if you are taking glucose lowering medications.

These products are designed to target several critical factors involved in age-related weight gain. Those who ingest more calories than what their body has the metabolic capacity to utilize will not see results. This is because some people are ingesting so many excess calories that no matter how much their metabolic rate is increased, or how much improvement occurs in their after-meal blood sugar and triglyceride levels, or by mow much youthful insulin sensitivity and other body fat-regulating systems are restored, they are overwhelming the metabolic capacity to utilize these calories. This will result in excess calories being stored in adipocytes. One cannot consume limitless calories and expect to shed fat pounds by taking drugs, nutrients, and/or hormones that demonstrate weight loss in clinical studies.

These supplements should be taken in conjunction with a healthy diet and regular exercise program. Results may vary





GREEN TEA EXTRACT

Large volumes of published **scientific findings** validate the multiple health benefits of green tea.

The active constituents in green tea are polyphenols, with epigallocatechin-3-gallate (EGCG) being the most powerful. The antioxidant activity of **EGCG** is about **25-100 times** more potent than vitamins C and E.

When Life Extension® introduced the first standardized green tea extract in 1993, the supplement was very expensive. As more research was published about green tea's multifaceted benefits, more companies competed to make higher-potency extracts at lower prices.

The good news for consumers is that they can obtain **high-potency** <u>standardized</u> green tea extract capsules at a fraction of the prices charged just five years ago.

The Life Extension Foundation Buyers Club offers 98% green tea extracts in either a lightly caffeinated or decaffeinated form. These 98% extracts are standardized to provide high potencies of critical **EGCG**, the most important **polyphenol** found in green tea. Each capsule of **Mega Green** Tea Extract provides more polyphenols than are found in three cups of green tea.

These highly concentrated Mega Green Tea Extract Caps contain 725 mg of either lightly caffeinated or **decaffeinated** 98% standardized green tea

extracts. The retail price for a 100 vegetarian capsules **bottle** of **Mega Green Tea** Extract is \$28.

If a member buys four bottles of 725 mg Mega Green **Tea Extract** capsules, the price is reduced to \$19.88 per bottle. Contains rice.



Item # 00954

To order Mega Green Tea Extract, call 1-800-544-4440 or visit www.LifeExtension.com

These supplements should be taken in conjunction with a healthy diet and regular exercise program. Results may vary.

These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.

Mitochondrial Basics

with BioPQQ™

Energy to burn. It's more than just a phrase. It's the key to a healthy life span.

Behind every process your body needs to survive and thrive 3. Acetyl-L-carnitine arginate. Fats are shuttled into the are the cellular energy generators known as *mitochondria*. Their function is so crucial that a growing number of scientists now believe mitochondrial longevity may determine overall longevity in aging humans.¹⁻⁵ That's why **Life Extension®** has remained at the forefront in identifying innovative compounds that specifically support mitochondrial health.

In addition to the more comprehensive Mitochondrial **Energy Optimizer with BioPQQ™** and standalone **PQQ** products, we now offer a one capsule per day formula for individuals seeking a simplified, low-cost option called Mitochondrial Basics with BioPQQ™.

The reason? We want all members to have access to targeted nutrients required to support mitochondrial function and the generation of healthy new mitochondria.

Three Premium Compounds in One Low-Cost Formula

Mitochondrial Basics with BioPQQ™ brings together cutting-edge mitochondrial energizers, including the most exciting nutrient to emerge in recent years called pyrrologuinoline quinone or PQQ. The three ingredients in value-priced Mitochondrial Basics with BioPQQ™ are:

- 1. PQQ. This breakthrough micronutrient has recently been shown to trigger *mitochondrial biogenesis*—the growth of new mitochondria in aging cells! PQQ also activates genes involved in protecting the delicate structures within the mitochondria.7-10
- 2. R-lipoic acid. The detrimental effects of free radicals comprise one of the chief obstacles to optimal mitochondrial energy production. Published studies confirm R-lipoic acid's power to promote mitochondrial bioenergetics while simultaneously blunting free radical activity. 11-16 Mitochondrial Basics with BioPQQ™ contains the superior Bio-Enhanced® R-lipoic acid and is in a proprietary microencapsulated form for better absorption.

mitochondria for metabolic combustion by the amino acid **carnitine**. The *acetylated* form of carnitine helps to facilitate more efficient utilization of fats than carnitine alone.

Life Extension® members continue to enjoy access to a full range of targeted supplements clinically shown to optimize energy production in the mitochondria. Just one capsule a day of Mitochondrial Basics with BioPQQ™ supplies:

BioPQQ™.....10 mg R-lipoic acid100 mg Acetyl-L-carnitine 250 mg arginate dihydrochloride

Item # 01569

OCHONDRIAL **BASICS**

A bottle containing 30 capsules of Mitochondrial Basics with BioPQQ[™] retails for \$52. If a member buys four bottles, the price is reduced to just \$34.50 per bottle.

PQQ can also be obtained as a low-cost standalone or in the Mitochondrial Energy Optimizer with BioPQQ™ formula.

> To order **Mitochondrial Basics** with BioPQQ™ call 1-800-544-4440 or visit www.LifeExtension.com

BioPQQ™ is a trademark of MGC (Japan). Bio-Enhanced* is a registered trademark of Geronova Research, Inc. ArginoCarn® is a registered trademark of Sigma-tau Health Sciences, Inc. and is protected by US patents 6,365,622, US 6,703,042, and EP 1202956.

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KRILL OIL Optimizes Multimodal ARTHRITIS CONTROL

BY JASON RAMIREZ

If you or someone you know suffers arthritic pain and swelling, you're aware that conventional medicine has largely *failed* to offer long-term relief.

The reason for this failure is simple.

To date, the preferred interventions—drugs, exercise, heat cold therapy, joint protection, and physiotherapy treatment—do <u>not</u> effectively and *safely* target the **pro-inflammatory factors** behind arthritis.

Chief among these factors are destructive **molecules** synthesized by the aging body that attack joint tissue. This activity must be suppressed in order to eliminate arthritis symptoms.

Emerging data suggest that fatty acids from small shrimp-like organisms called **krill** act in *synergy* with other <u>natural</u> anti-inflammatory compounds such as **omega-3** fish oils.

New data indicate krill may help treat arthritic joint tissue by neutralizing pro-inflammatory activity.

In a group of aging individuals inflicted with arthritic pain, **300 mg** per day of krill oil alone slashed pro-inflammatory **C-reactive protein** activity in half after just one month.¹

In a separate study of **krill oil** combined with **hyaluronic acid** and **astaxanthin**—both of which target pro-inflammatory agents in the body—arthritis patients reported a **55% pain reduction** in under three months, with **63%** entirely pain-free!² >>



Krill are among the most populous animal species on the planet.³ Tiny, shrimp-like crustaceans, krill flourish in the frigid waters of the Antarctic Ocean.^{3,4} Because the temperature in that salty environment hovers near the freezing point of fresh water, krill evolved a way to keep their cell membranes fluid.

Unlike long-chain polyunsaturated fatty acids from other animal sources, a high proportion of krill oil fats are found in a form known as *phospholipids*, which may help explain their unique function in the joints.⁴

Rapid Relief from Joint Pain

Osteoarthritis (OA) is the leading cause of joint pain and disability in middle-aged and elderly people.^{5,6} Osteoarthritis is characterized by progressive loss of joint cartilage that eventually leads to degradation of many important components of the joint.⁵ Unchecked, osteoarthritis progresses to greater degrees of inflammation and the release of destructive enzymes that literally tear the joint apart.^{5,7}

To date, no drug therapy has proved effective at slowing or reversing joint damage in osteoarthritis.^{6,8} Natural compounds like *glucosamine and chondroitin* have shown some benefit at relieving symptoms, especially in patients with moderate to severe disease.^{8,9}

Glucosamine and chondroitin help protect cartilage from further damage.¹⁰ Used over the long term, they can restore joint cartilage to a more youthful state, increasing its pressure resistance and naturally high elasticity.¹⁰ Laboratory and clinical studies show glucosamine and chondroitin can modify, stabilize, retard, or even help reverse the joint damage in osteoarthritis.^{10,11}

But arthritic joints need more than structural repair. They need something to slow or even stop the inflammatory processes that steadily destroy their cartilage. Marine oils such as those from fish and krill, rich in omega-3 fatty acids, offer exceptional anti-inflammatory protection. One study showed that adding the omega-3s EPA and DHA from marine oils to a glucosamine supplement produced superior pain relief compared with the glucosamine supplement alone.¹²

So why not simply supplement with fish oil along with your regular joint health supplements? Fish oils, after all, lower levels of inflammatory cytokines throughout the body. They also provide major cardiovascular benefits, as is well known.^{13,14}

It turns out that there are subtle but important differences. Both fish oil and krill oil increase blood levels of omega-3s at about the same rate, which is good.¹⁵ But krill oil is superior at protecting joint cartilage from inflammatory damage, while fish oils are better at suppressing the circulating inflammatory cytokines that cause cardiovascular disease.^{14,16}

So those with arthritic concerns should *continue* using fish oil to support heart health and add a lower dose of krill oil to manage joint pain, as we'll now see.

Exciting Findings in Animal Studies

Animal models of experimentally induced arthritis have provided the first supportive data on the value of krill oil as a powerful and safe joint-targeted antiinflammatory agent.

Arthritis-prone mice were fed diets supplemented with fish oil (known to have anti-inflammatory effects), krill oil, or placebo.²² The placebo group of the control-fed mice all developed arthritis by day 60.²² Fifty-seven percent of the control animals suffered such severe inflammation that they died.

By contrast, the mice fed *fish oil* or *krill oil* demonstrated much milder disease, which progressed much more slowly. By day 54, only **15**% of the krill oil group had detectable arthritis, compared with **43**% of controls.²² Clinical arthritis scores were significantly lower in the krill oil group throughout, while fish oil-supplemented mice had lower scores only on about half of the days when scores were measured.

Those mice that were fed the special fish oil diet significantly reduced their arthritis scores and paw swelling early in the study, but *the krill oil group* saw significant relief during the later phase. In addition, the krill oil–supplemented group had lower amounts of infiltration of **inflammatory white blood cells** into the joint and its lining, an important measure of arthritis severity.

Interestingly, the *krill oil-supplemented animals* had no changes in serum pro-inflammatory cytokines such as interleukin-1 beta, a dangerous cell-signaling molecule involved in a host of degenerative diseases. That meant that the anti-inflammatory effects and reduction in joint symptoms were attributable to a different mechanism than what is commonly seen with fish oil supplementation, in which inflammatory cytokine levels drop dramatically.²³⁻²⁵

This is a highly significant result: it demonstrates how krill oil works in synergy with fish oil to attack inflammation on multiple levels and optimize arthritis control. Based on his study, supplementing with both of these natural products (krill and fish oil) provides the best opportunity to combat inflammation on multiple levels and maximize joint and total body benefits.

Potent Anti-Arthritis Effects Observed in Humans

Human studies of krill oil in arthritis and other ioint-health conditions are even more compelling. In one study, the effect of a krill oil extract on patients with arthritis and chronic inflammation was evaluated.1

One group received 300 mg/day of krill oil, and the other group received placebo. At days 7, 14, and 30, C-reactive protein (CRP, a measure of inflammation) and the widely used WOMAC arthritis score were determined.

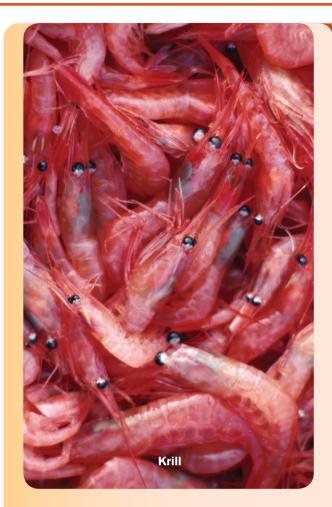
The WOMAC score assesses levels of pain and stiffness in patients with osteoarthritis. After just 7 days of supplementation, CRP was significantly reduced by 19.3% in the krill-supplemented group, while it rose by 15.7% in the placebo group. 1 CRP dropped an additional 30% and 31% at days 14 and 30, respectively, in the krill arm of the study, while it rose by 32% at day 14 in the placebo group.

Of greater clinical significance for the arthritis sufferers, **WOMAC** severity scores dropped significantly on all three parameters: pain, stiffness, and functional impairment.1 These improvements were not just temporary, but were sustained, with patients continuing to experience greater relief at each time point. No significant improvements were seen in the placebo recipients (See table 1 below).

TABLE 1. Krill Oil Progressively Improves WOMAC Arthritis Scores¹

Study Day	Improvement in Pain	Improvement in Stiffness	Improvement in Function
7	29%	20%	23%
14	26%	26%	29%
30	38%	39%	36%

Improvements in arthritis scores were progressive in krill oil-supplemented patients, showing significant gains at each successive day of evaluation.



Krill Oil

- Conventional medicine has failed to effectively alleviate arthritis symptoms.
- Available treatments do not safely inhibit pro-inflammatory factors in the body, including specific proteins, cell-signaling molecules, enzymes, and immune cells.
- Krill oil suppresses the activity of C-reactive protein, a contributor to arthritic inflammation, by as much as 50%.
- Hyaluronic acid and astaxanthin operate via distinct but similar mechanisms to suppress pro-inflammatory agents.
- In a study combining krill oil with hyaluronic acid and astaxanthin, subjects reported a 55% pain reduction in under three months, with 63% entirely pain-free.

In breaking news, *a second, still more compelling clinical trial* has just been completed, with an even more effective krill oil formulation.² The new formulation contains several valuable additional ingredients along with purified krill oil. Together, these compounds were found to *augment* krill oil's clinical effectiveness in treating joint pain.

Hyaluronic Acid Blocks Cartilage Destruction

Hyaluronic acid (HA) is a naturally occurring polysaccharide that is a major component of joint and connective tissue.²⁶ In joints, its natural function is to lubricate and cushion the joint lining from repeated impacts and microscopic trauma.²⁷ It is also involved in wound repair and regeneration.²⁶

Hyaluronic acid fights arthritis via multiple mechanisms, most notably by inhibiting the **enzyme MMP-13**, which is a key element in the joint destruction seen in osteoarthritis.⁷ MMP-13 (which stands for matrix

metalloproteinase-13) *dissolves cartilage*, leaving the joint space unprotected and vulnerable to friction and traumatic injury.^{5,28} By inhibiting MMP-13, hyaluronic acid quenches the joint degradation and slows the painful and destructive progress of arthritis.⁷

Hyaluronic acid is now in widespread clinical use for treatment of knee osteoarthritis, where it is administered by direct injection into the joint.^{27,29,30} Recent studies have demonstrated significant improvement in arthritis sufferers' quality of life when hyaluronic acid from natural sources is administered orally.²⁹

One potential problem with orally administered hyaluronic acid is bioavailability. Hyaluronic acid is a very large molecule that is not readily absorbed from the intestinal tract by itself, limiting how much is available to help heal damaged joint tissues. ²⁶ But when hyaluronic acid is provided in a mixture rich in phospholipids, *as found in krill oil*, absorption is markedly improved, with blood levels significantly exceeding those obtained when hyaluronic acid is administered alone. ³¹

Krill Oil and Fish Oil: Different Mechanisms, Greater Benefit

Krill oil and fish oil are both healthful **marine oils** from ocean-dwelling animals. Both are rich in the beneficial fats known as omega-3 fatty acids, and both fight inflammation in your body.

What distinguishes krill oil from fish oil? Why is it essential for some people to supplement with both? Despite their apparent similarities, there are three important differences between these two marine oil products, differences that you need to understand in order to optimize your fight against dangerous inflammatory processes.

- 1. The *first point* of differentiation is *intended benefit and dosage*. Fish oil is widely recognized for promoting *cardiovascular* health and favorably affecting blood lipids. Fish oil taken in sufficient doses lowers triglycerides and favorably modifies other vascular risk factors such as small, dense LDL.¹⁷⁻²⁰ Optimal doses for most people of **EPA** is **1,400 mg** and **DHA** is **1,000 mg**. Krill oil also provides EPA and DHA (in the *phospholipid* forms), but it does not provide them in levels *high* enough for optimal cardiovascular protection.
- 2. The **second** point of differentiation is the **site of action** of the two marine oils. **Fish oils** favorably modulate inflammatory **cytokines circulating in the blood**, thereby reducing total body inflammation (that's in part how they exert their beneficial cardiovascular effects).²¹ Krill oil, on the other hand, has beneficial effects **locally in the joint**. In one study, <u>krill oil</u>, <u>but not fish oil</u>, reduced infiltration of inflammatory cells into the joint and joint-lining tissues, a vital effect in reducing the pain, swelling, and loss of function in arthritis.¹⁶ In that same study, <u>fish oil</u>, but not <u>krill oil</u>, modulated blood levels of inflammatory cytokines. This study provides a neat picture of the **complementary nature** of these two marine oils.
- 3. Purified fish oil concentrates are a more cost-effective way of obtaining high doses of EPA/DHA required to protect against a wide range of degenerative disorders. Just 300 mg a day of krill oil has been shown to relieve joint pain, whereas 2,400 mg of EPA/DHA are needed each day to provide the systemic benefits of EPA and DHA omega-3s. For comparison, one would need to take approximately 30 softgels containing about 300 mg of krill oil to obtain similar amounts of DHA as found in just two purified and concentrated fish oil softgels.

Taken together, these three important points of distinction explain why it's essential to **continue supplementation with high-dose fish oil** to maintain optimal cardioprotection and generalized protection from inflammation and to **add krill oil** to manage pain and prevent joint destruction.



Astaxanthin Adds Anti-Inflammatory Potency

A second additional component of a new joint health formulation is *astaxanthin*, a naturally occurring carotenoid pigment found abundantly in oceandwelling algae.³² Krill avidly consume these algae and accumulate high concentrations of astaxanthin. Unfortunately, standard processing practices destroy astaxanthin, depleting it from the finished krill oil product.^{3,4} However, this new formulation of krill and hyaluronic acid is further enriched with natural astaxanthin to maximize its therapeutic effect and enhance its stability.2

Astaxanthin is a powerful antioxidant and natural anti-inflammatory agent. 4,32,33 It is widely studied for its beneficial effects on chronic inflammatory conditions such as arthritis.32,34

Astaxanthin exerts its anti-inflammatory effects via multiple pathways, always an important plus for natural supplements over single-targeted drugs. First, its antioxidant powers reduce levels of tissue oxidation that lead to inflammation.^{35,36} Astaxanthin also downregulates production and activity of several enzymes that manufacture inflammatory cytokines. 36,37 Importantly, astaxanthin also reduces inducible nitric oxide synthase (iNOS), which is known to be an important inflammatory trigger in osteoarthritis.^{37,38}

Astaxanthin has additional, direct benefits on joint health. It inhibits apoptosis, the programmed cell death that underlies many chronic, inflammatory diseases.³⁹ Apoptosis is a significant cause of cartilage

loss in osteoarthritis. 40,41 And like hyaluronic acid, astaxanthin inhibits the destructive enzyme MMP-13, thereby preventing the joint degradation seen in osteoarthritis.28

Clinical Benefits Accrue from **Natural Krill Oil Formulation**

A new, multi-component, multi-targeted krill oil formulation with hyaluronic acid and astaxanthin has proven benefits on joint health. In a recently completed clinical trial, the formulation was compared with both a placebo and a "positive control" consisting of a glucosamine/chondroitin supplement.2 Two separate measures of joint pain were used, the standard WOMAC score, and also a patient-driven Visual Analogue Scale to maximize validity. A total of 107 people with joint pain completed the study in June. 2011.

The results were impressive.

WOMAC scores measured on days 14, 28, and 56 of the study demonstrated a progressive drop in pain severity. When the effect of the placebo was controlled for, the krill oil formulation vividly outperformed the glucosamine/chondroitin positive control as well, achieving a 55% reduction in WOMAC pain score reduction by day 56 (See table 2 below).

TABLE 2. Advanced Krill Oil Formulation Superior to Standard Therapy Alone²

	Drop in WOMAC Score		Drop in VAS Score	
Study Day	Krill Oil	Glucosamine/ Chondroitin	Krill Oil	Glucosamine/ Chondroitin
7	N/A	N/A	17%	11%
14	35%	20%	29%	19%
28	44%	31%	39%	32%
56	55%	35%	55%	35%

Percent drop in pain scores using standard WOMAC and patient-driven Visual Analogue Scale scales for subjects receiving advanced krill oil formula or standard glucosamine/chondroitin therapy.

Particularly impressive was the proportion of subjects who became entirely pain-free, attaining a WOMAC score of less than 10. A total of 63% of subjects reached this milestone by the end of the study.² And an impressive **30%** were **pain-free** already by day 14.

Scores on the Visual Analogue Scale measurement showed strikingly similar improvements, decreasing in a linear fashion from day 7 through day 56 (Table 2). A total of **68**% of subjects reported themselves to be pain-free by the end of the study, consistent with the WOMAC scores.

Statistical analysis of the mean WOMAC and Visual Analogue Scale pain scores further demonstrated the superiority of the advanced krill oil formulation. The krill oil-supplemented group had a *significantly higher* mean treatment effect than either the glucosamine/chondroitin group or the placebo group.²

In conclusion, the krill oil supplement, enhanced with hyaluronic acid, astaxanthin, and additional antioxidant stabilizers proved clinically superior, not only to a placebo control, but to an active glucosamine/ chondroitin supplement. The beneficial effects grew linearly, continuing to increase over time right up until the study's termination at 8 weeks. With two-thirds of the multi-supplemented (krill oil-hyaluronic acid-astaxanthin) patients attaining a pain-free status in that time period, this advanced triple ingredient formula has much to offer for those suffering from debilitating joint pain.

Summary

Conventional medicine has failed to effectively alleviate arthritis symptoms because the available treatments do not safely inhibit pro-inflammatory factors in the body.

Krill oil reduces infiltration of inflammatory cells into the joint and joint-lining tissues, a vital effect in reducing the pain, swelling, and loss of function in arthritis. Hyaluronic acid and astaxanthin operate via distinct but similar mechanisms to suppress proinflammatory agents.

In a study combining krill oil with hyaluronic acid and astaxanthin, subjects in the active group reported a **55% pain reduction** in less than three months, with **63%** entirely pain-free. ●

If you have any questions on the scientific content of this article, please call a Life Extension®

Health Advisor at 1-866-864-3027.

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How Astaxanthin Suppresses Inflammatory Fires

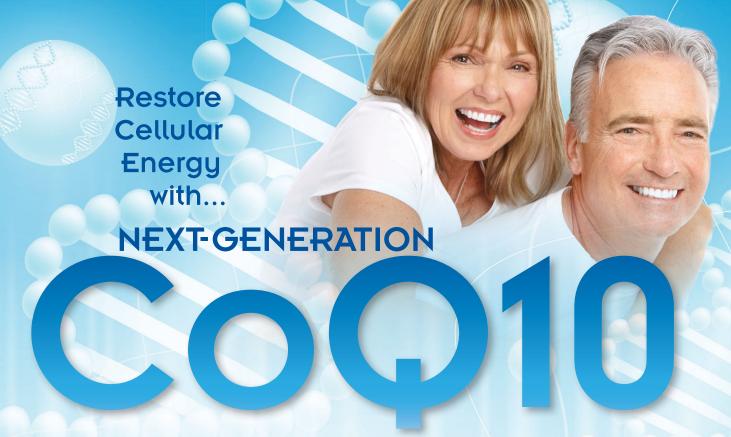
Astaxanthin is a natural carotenoid with anti-inflammatory benefits. It acts by at least **four distinct mechanisms**.³⁵

First it **reduces** oxidant-provoked **cell death** and **mitochondrial dysfunction**, 2 two basic triggers of inflammation. Astaxanthin then **enhances natural cellular antioxidant** function and decreases formation of reactive oxygen species (ROS) and their lipid oxidation byproducts, both additional inflammation triggers. 35

Astaxanthin also **suppresses** activity of **caspase-3**, 35 a protein necessary to produce the cell death by apoptosis that is a feature of osteoarthritis. 43 Finally, astaxanthin **reduces release of inflammatory cytokines** such as IL-1, IL-6, and TNF-alpha. 35

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Since **Life Extension**® introduced CoQ10 in 1983, our scientists have continued to develop increased potency and absorbability.

Super Ubiquinol CoQ10 with Enhanced Mitochondrial Support™ contains PrimaVie® shilajit that <u>doubles</u> levels of CoQ10 in the mitochondria.¹

Combining CoQ10 and **shilajit** produced a **56%** increase in cellular energy production in the **brain**, and in muscle there was a **144%** increase in cellular energy production.²

Shilajit boosts CoQ10's beneficial effects by stabilizing CoQ10 in the superior ubiquinol form, which *prolongs* its action at the cellular level.^{3,4} Additionally, **shilajit** facilitates the more efficient *delivery* of CoQ10 into the mitochondria, which results in enhanced cellular energy.⁵⁻⁹

Shilajit helps the mitochondria convert fats and sugars into the body's main source of energy, ATP (adenosine triphosphate).⁵⁻⁹

Super Ubiquinol CoQ10 with Enhanced Mitochondrial Support™

Combining <u>ubiquinol</u> **CoQ10** with **shilajit** generates a powerful synergy that supports more youthful cellular energy production than CoQ10 alone.^{2,4,5}

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The retail price for 60 100 mg softgels of Super Ubiquinol CoQ10 with Enhanced Mitochondrial Support™ is \$62. If a member buys four bottles, the price is reduced to \$42 per bottle. Item # 01426



The retail price for 100 50 mg softgels of Super Ubiquinol CoQ10 with Enhanced Mitochondrial Support™ is \$58. If a member buys four bottles, the price is reduced to \$39.75 per bottle. Item # 01425



The retail price for 30 200 mg softgels of Super Ubiquinol CoQ10 with Enhanced Mitochondrial Support™ is \$62. If a member buys four bottles, the price is reduced to \$42 per bottle. Item # 01431

To order Super Ubiquinol CoQ10 with Enhanced Mitochondrial Support™ call 1-800-544-4440 or visit www.LifeExtension.com



Maintaining healthy, flexible joints is essential to quality of life. Joint stiffness and discomfort can stand in the way of performing even simple everyday tasks.

Most people do <u>not</u> obtain critical nutrients shown to support youthful joint function and mobility.

To meet this urgent need, **Life Extension**® introduces **Krill Healthy Joint Formula**, a patent-pending blend of deep-sea **krill oil** sourced in Antarctica, combined with **hyaluronic acid** and **astaxanthin**.

In a recent clinical trial involving over 100 maturing individuals, a **55% reduction** in joint discomfort was observed in less than three months, with **63%** of participants maintaining ease of motion.¹

THREE SYNERGISTIC COMPOUNDS FOR SUPERIOR BENEFIT

New data reveal that the **phospholipid** form of essential fatty acids found in krill oil is particularly effective for joint health.² These unique phospholipid omega-3s have been shown to *specifically target joint tissue*.^{2,3}

Hyaluronic acid occurs naturally in the joints,⁴ where it acts to lubricate and cushion against repeated physical impacts.⁵ Because it forms a major component of cartilage and soft tissue,⁴ it is widely used to promote joint health.⁴⁻⁸

The difficulty has been that hyaluronic acid is a large molecule not well absorbed by the body. When combined with krill oil, it has been shown to reach significantly *higher* levels in the bloodstream than in standalone form.⁸

Krill oil is a natural source of the antioxidant carotenoid **astaxanthin**. Astaxanthin works in multiple ways, including suppression of free radical activity and enhanced mitochondrial function. It also maintains krill oil's molecular stability.

Most commercially available krill oils do not contain significant amounts of astaxanthin because it is nearly eliminated during processing. **Krill Healthy Joint Formula** is *fortified* with astaxanthin, for maximum stability and superior benefit.

JUST ONE CAPSULE DAILY

The suggested daily serving of <u>one</u> **Krill Healthy Joint Formula** softgel daily supplies **353 mg** of this proprietary blend.

A bottle containing <u>30</u> softgels of **Krill Healthy Joint Formula** retails for \$32. If a member buys four bottles, the price is reduced to **\$21.75** per bottle. Just <u>one</u> capsule a day of **Krill Healthy Joint Formula** duplicates successful human clinical trials.

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CAUTION: If you are taking anti-coagulant or anti-platelet medications, or have a bleeding disorder, consult your healthcare provider before taking this product.

Contains crustacean shellfish (krill).



Item # 01600

* It should be noted that krill oil is <u>not</u> a substitute for fish oil. Purified fish oil is a far more cost-effective way to obtain the recommended 1,400 mg EPA and 1,000 mg DHA per day. For example, you would have to take approximately 30 softgels of **Krill Healthy Joint Formula** to obtain the same amount of DHA contained in just <u>two</u> softgels of Life Extension's **Super Omega-3**.

To order **Krill Healthy Joint Formula** call 1-800-544-4440 or visit **www.LifeExtension.com**

A Small Price to Pay for HEALTHY CARTILAGE and JOINT FUNCTION

The degeneration of cartilage that cushions the ends of bones results in joint problems. Dehydration of the cartilage is a major culprit of this joint destruction. The symptoms range from annoying to debilitating: morning stiffness, cracking joints, and joint discomfort. The good news is, you don't have to live with it!

Glucosamine and chondroitin have been shown in clinical studies to support healthy cartilage and joint function.* As a component of cartilage, glucosamine is key for joint function and repair. Our bodies produce a certain amount, but as we grow older, we lose the capacity to make enough. This leads to drying of the cartilage in areas such as the knees, hips, and hands, which in turn causes the cartilage to harden. With this comes joint discomfort, stiffness, and sometimes deformity.

Like glucosamine, chondroitin is another major component of cartilage and attracts fluid and helps stimulate the production of cartilage. Chondroitin acts as a carrier of liquid nutrient to the joints, thus supporting healthy fluid balance and joint movement and mobility.*

Life Extension **Glucosamine/ Chondroitin Caps** are the highest quality supplement available on the market today. This combination uses only pharmaceutical-grade sources, yet is priced lower than products of comparable potency sold by commercial companies.

Each capsule of **Glucosamine/Chondroitin Caps** provide:

Glucosamine sulfate (from shellfish) 400 mg (potassium-based)

(from 544 mg of glucosamine sulfate 2KCl)

Chondroitin sulfate 450 mg

(from 500 mg of chondroitin sulfate sodium)

Suggested dose: One to eight caps a day.



HIGH QUALITY, LOW PRICE

The retail price of a 100-capsule bottle of Life Extension's high-potency **Glucosamine/ Chondroitin Caps** is \$38. If a member buys four bottles, the price is reduced to only **\$24** per bottle.

Contains crustacean shellfish (shrimp, crab).

Item # 00522



To order Glucosamine/Chondroitin Capsules, call 1-800-544-4440 or visit www.LifeExtension.com



There's no debating the power of omega-3 fatty acids. From support for heart health and brain function to help with inflammation, their broad-spectrum benefits have been firmly established in a wealth of studies. 1-9

To ensure the purest, most stable, easy-to-tolerate fish oil supplement, Life Extension® SUPER OMEGA-3 EPA/ **DHA** is molecularly distilled. This proprietary process ensures any pollutants are reduced to virtually undetectable levels. The result? Our fish oil enjoys a 5-star rating for purity, quality, and concentration from the International Fish Oil Standards program (IFOS)—the highest possible rating from the world's premier testing laboratory.

Sesame Lignans and Standardized Olive Fruit Extract for Enhanced Benefits

Fish oils (and other fatty acids) have a tendency to oxidize, rendering them nutritionally inferior. Scientific studies show that when added to fish oil, sesame lignans safeguard against oxidation and direct fatty acids toward pathways that help with inflammatory reactions.10

To further emulate the benefits of a Mediterranean diet, Super Omega-3 delivers standardized, high-potency olive fruit extract. Research shows that when combined with olive oil, fish oil supplements help with inflammation better than fish oil alone.11

Olive also contains the compounds hydroxytyrosol, tyrosol, and oleuropein. Together these nutrients counter the action of free radicals, delay aging in specialized skin cells, prevent undesirable LDL oxidation, and help maintain normal platelet activation.12-15

Super Omega-3 supplies the equivalent content of **6 ounces of extra virgin olive oil**. Take <u>two</u> softgels twice daily with meals.

A bottle containing 120 softgels of Super Omega-3 EPA/ **DHA with Sesame Lignans and Olive Fruit Extract** retails for \$32. If a member buys four bottles, the price is reduced to just \$21 per bottle. If 10 bottles are purchased, the cost is just \$18.68 per bottle. Item # 01482



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The second regularity of the real extract provider				
EPA Pure+™ Extract (eicosapentaenoic acid)	1400 mg			
DHA Pure+™ Extract (docosahexaenoic acid)	1000 mg			
Olive Fruit Extract [std. to 6.5% polyphenols (39 mg), 1.73% hydroxytyrosol/tyrosol (10.4 mg), 0.5% verbascoside/oleuropein (3 mg)]	600 mg			
Sesame Seed Lignan Extract	20 mg			

For those with sensitive stomachs, Super Omega-3 is also available with enteric coating and retails for \$34. If a member buys four bottles, the price is reduced to \$23.25 per bottle. If 10 bottles are purchased, the cost is just \$21 per bottle. Item # 01484

To order the most advanced fish oil supplement, Super Omega-3 EPA/DHA with Sesame Lignans and Olive Fruit Extract (with or without enteric coating), call 1-800-544-4440 or visit www.LifeExtension.com

CAUTION: If you are taking anti-coagulant or anti-platelet medications, or have a bleeding disorder, consult your healthcare provider before taking this product. Contains fish (anchovy, mackerel), soybeans, and sesame.

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Supportive but not conclusive evidence shows that consumption of EPA and DHA omega-3 fatty acids may reduce the risk of coronary heart disease.

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REVERSE Brain Cell Death by Growing NEW MITTOCHONDRIA

BY MICHELLE FLAGG

Go to Google and enter "mitochondria" and "neurodegeneration." You'll find *hundreds* of published studies linking the two.

The decay of **mitochondria** in brain cells is a primary cause of *all* neurodegenerative disorders, from Parkinson's to dementia.^{1,2}

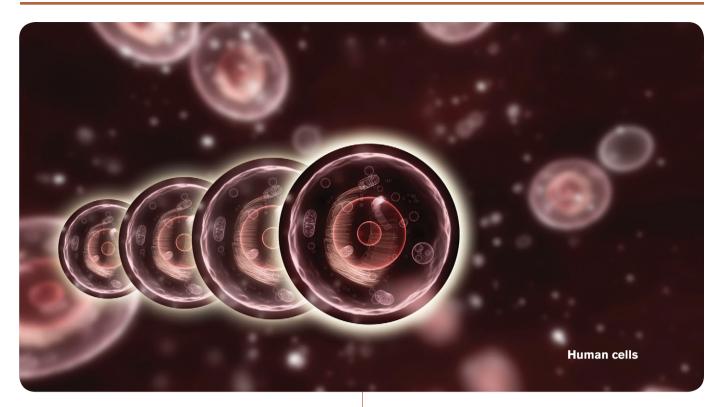
This deadly process begins when **free radicals** inflict damage to nerve cells. But increased **antioxidant** intake by itself is not enough to halt this degenerative cascade. As one team of scientists stated in a study published in July 2011:

"Once the mitochondria are destabilized, cells are destined to commit suicide. Therefore, antioxidative agents alone are not sufficient to protect neuronal loss in many neurodegenerative diseases."

The encouraging news is that a novel strategy exists to *replenish* aging cells by triggering them to grow <u>new</u> mitochondria. The result is that many disorders related to brain aging may be halted and *reversed*.

In this article, you will discover how a compound called *pyrroloquinoline quinone* or **PQQ** triggers aging cells to grow <u>new</u> mitochondria.³ This process, called *mitochondrial biogenesis*, can prevent age-related cell death that accelerates brain degeneration.

You will also find evidence of PQQ's power to stimulate nerve growth factor, combat stroke, Alzheimer's, and Parkinson's, and speed regeneration of damaged nerve cells.⁴⁻⁹ >>



Mitochondrial Decay and Brain Degeneration

Every human cell contains tiny "organelles" called *mitochondria* that are essential to life itself. Mitochondria efficiently convert our intake of food and oxygen into clean energy.

Because of their constant exposure to high levels of energy and oxygen, mitochondria are especially vulnerable to damage by *oxidative stress*. ¹⁰ With time, they lose their ability to efficiently manage energy transfer through the flow of electrons. ¹¹⁻¹³ As they become increasingly inefficient, mitochondria accumulate structural and functional damage, which then leads to a vicious cycle of further inefficiency and damage. ¹⁴⁻¹⁶ Oxidative mitochondrial decay is now recognized as a <u>major contributor to aging</u>. ¹⁷

It is now clear that the <u>brain</u> is a primary target of *mitochondrial aging*. ^{13,18} As one of the body's greatest consumers of energy and oxygen, the brain is an organ that is *highly vulnerable to mitochondrial decay*. ¹⁹⁻²² That decay is evident in brain tissue as a selective loss of brain cells in areas associated with mobility and with learning and memory, which is why those functions deteriorate most rapidly with aging. ^{17,19}

In neurodegenerative diseases such as Alzheimer's and Parkinson's disease, *mitochondrial dysfunction* is associated with abnormal brain cell activity and accumulation of toxic proteins. 16,23,24 Older individu-

als who suffer strokes, with their impaired brain cell mitochondrial function, have more brain tissue injury and slower, less complete recovery than younger stroke victims.²⁵

Even in apparently healthy older people, free of neurodegenerative diseases and strokes, *mitochondrial dysfunction* in brain cells leaves them with precious little reserve. Evidence strongly suggests that, while aged neurons can function adequately during normal activity, they quickly become vulnerable to the other metabolic stresses of aging.¹⁹ That's why a minor illness or minimal trauma can so suddenly lead to massive—and irreversible—loss of cognitive function in an older adult.

There is now solid evidence that if we can prevent **mitochondrial decay**, or if we can reverse it by stimulating production of new mitochondria, we can slow down the aging process itself.¹⁷ And just as the brain is a principal target of mitochondrial aging, studies suggest that it also may be a main beneficiary of this "mitochondrial medicine" approach.^{11,24} That's why mitochondria-targeted therapies are now captivating specialists in brain aging, cognition, and neurodegenerative diseases.^{24,26}

As it turns out, PQQ provides impressive mitochondria-targeted therapy. Let's examine the compelling evidence for PQQ's direct neuroprotective effects in greater detail, in order to understand how supplementing with PQQ can prevent your brain from aging too rapidly.

The Science Behind **POO's Brain Anti-Aging Benefits**

The most notable ways in which POO protects the brain from aging are related to its powerful redox cycling abilities. By far the most robust of the redox cyclers available (either as medications or as nutrients), PQQ potently blunts the deadly effects of reactive oxygen species (ROS) in brain tissue, thereby helping to keep existing mitochondria intact.^{27,28} There's strong evidence that PQQ also scavenges existing reactive oxygen species, 29,30 which offers further promise in reducing the oxidant load on brain mitochondria.

POO also stimulates the brain to produce healthy new mitochondria in the process known as mitochondrial biogenesis.3 Mitochondrial biogenesis is a powerful natural response to declining mitochondrial function.31 The use of "mitochondrial nutrients" such as POO that stimulate biogenesis may represent an important stride in preserving vouthful brain function.32

But PQQ also exerts two additional effects that add to its already-impressive oxidant protection and mitochondrial preservation.

PQQ stimulates natural production of nerve growth factor (NGF)4,5 which triggers growth and branching of nerve cells.33 Nerve growth factor is vital in repairing damage caused by a stroke, by ischemia (loss of blood flow), or by an injury. In other words, **POO** shows promise in stimulating brain and nerve tissue to heal itself.34 That's important both for people who've suffered overt injuries (from trauma or strokes), and also for those who've suffered the more subtle damage that can lead to so-called multi-infarct dementia. 35-38

Treatment with PQQ reduces the impact of excitotoxicity in brain cells. 39,40 Excitotoxicity occurs when neurons become electrically or chemically over-stimulated. It is one of the underlying causes of many age-related states of cognitive impairment. including Alzheimer's and Parkinson's diseases. Excitotoxicity is also associated with certain forms of epilepsy.⁴¹

PQQ's powerful redox cycling abilities help it to chemically modify receptors for the most potent excitotoxic neurotransmitter, known as NMDA (*N*-Methyl-D-aspartic acid).⁴² Under the influence of PQQ, the NMDA receptors literally "quiet down" and stop producing the toxic effects that lead to neuronal dysfunction.^{6,43-45} In related actions, PQQ protects against environmental neurotoxicity as well, as in the case of deadly mercury poisoning.⁴⁶

PQQ and Mitochondria

- Loss of mitochondrial function is now known to be a chief cause of aging in human tissues.
- That loss is especially profound in brain cells, which suffer a disproportionate exposure to the oxidative stress that damages mitochondria.
- The result is an unnecessary-and preventable-acceleration of brain aging.
- An ancient mitochondrial nutrient, PQQ, which is common to many living things, has recently been produced in meaningful quantities, thanks to a new process originating in Japan.
- PQQ protects and restores age-related mitochondrial function, and even increases the number of mitochondria in your tissues.
- PQQ offers proven neuroprotection by combating mitochondrial dysfunction in brain and peripheral nerve cells.
- PQQ's unique actions offer hope in prevention of age-related cognitive decline, stroke-related neurological deficits, and neurodegenerative diseases
- PQQ also offers cardioprotection and enhanced immune function, both of vital concern in increasing longevity.



Powerful and Proven Neuroprotection

PQQ's neuroprotection in the laboratory translates into impressive prevention of age-related cognitive deficits. Here are the compelling data:

Strokes are the third leading cause of death in older Americans, killing nearly 136,000 of us annually, and six million Americans live with the debilitating after-effects of a stroke.⁴⁷ PQQ treatment of stroke in an animal study produced a significant reduction in size of the damaged brain area compared with control treatment—even when given after the stroke was induced.6 Another animal study demonstrated significant improvements in neurobehavioral scores following PQQ supplementation after a stroke.⁴⁸

Cognitive decline caused by Alzheimer's and **Parkinson's diseases** robs hundreds of thousands of older Americans of joy and satisfaction in life each year. PQQ protects brain cells from two deadly proteins called beta-amyloid and alpha-synuclein that trigger those conditions.^{7,8} The result is that fewer brain cells die, and brain function is preserved, brightening the outlook for sufferers of these devastating diseases.⁷

Cognitive decline frequently occurs even in the absence of a diagnosed neurodegenerative condition or a stroke. Recent studies from Japan, where POO science is most advanced, show that a POOsupplemented diet improves learning ability in healthy animals.49 When the animals were subjected to 48 hours of extreme oxidant stress to mimic accelerated aging, the PQQ-supplemented group showed better memory function than the control group, and that improvement was sustained long after the stress.

In a similar study, aged animals (like many aging humans) demonstrated very poor learning ability at baseline.⁵⁰ When supplemented with PQQ, however, the old individuals learned to navigate a maze with ease and retained their knowledge over time much better than did untreated animals, which showed a memory loss of about 60%.

POO's neuronal benefits are not limited to cognitive factors, however. They also apply to other common age-related problems such as seizures and peripheral nerve injury.

PQQ: From Stardust to Stellar Mitochondrial Protection

PQQ was discovered only three decades ago, 60,61 but its origins seem to be as old as the universe itself. A powerful and essential component of energy-transfer processes in a diverse range of living cells, PQQ is an advanced organic molecule that scientists believe they have identified in stardust collected from comets passing through our solar system. 27,62,63

PQQ's widespread presence in living matter and its ancient origins in the cosmos has intrigued scientists and stimulated massive amounts of research. Fueling this research is the recent discovery of a process for readily producing PQQ by natural bacterial fermentation. 64-68 Scientific work since has revealed that PQQ functions as an essential human nutrient-a new vitamin, according to eminent researchers. 39,69,70

PQQ stimulates growth and development in living things from bacteria to higher mammals.^{27,71} In mammals (including humans), PQQ directly modulates and slows mitochondrial aging. 2772

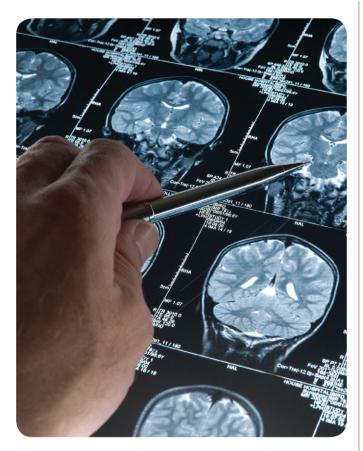
Studies have shown that animals deficient in PQQ develop many of the typical signs of aging: slowed tissue growth, poor reproductive function, impaired skin, bone, and connective tissue integrity, weakened immune systems, and most notably, impaired cognition. 27,59,73,74 When PQQ is restored, those abnormalities are reversed. 27,72,74

PQQ acts in living cells as a "redox cycler," meaning that it modulates the flow of electrons that determine if a given chemical reaction produces oxidation or its opposite, known as reduction (hence "red-ox"). 39,69 Redox cyclers are essential for protecting mitochondria from the vicious attacks of reactive oxygen species (ROS) generated during energy transfer activities. 27,39

Many beneficial antioxidant nutrients, such as quercetin, green tea extracts, and vitamin C, are technically redox cyclers and thereby offer some mitochondrial protection.²⁷ But PQQ is tremendously more robust. A single PQQ molecule can undergo more than 20,000 cycles of oxidation/reduction before it is destroyed, while more conventional redox cyclers give out after at most about 800 cycles.²⁷

That incredible potency gives PQQ a tremendous advantage as a mitochondrial protector. In bacterial cultures in the laboratory, it requires only picogram quantities (one-trillionth of a gram) to support healthy growth and reproductive parameters.71

It's clear that PQQ protects mitochondria, and that in doing so it protects brain cells from the ravages of mitochondrial aging, with all the deficits that entails.



Seizures occur with increasing frequency as our brains age and can be responsible for physical injury as well as neurological deficits.⁵¹ By combating the seizure-inducing excitatory effects of the NMDA neurotransmitter, PQQ suppresses spontaneous seizure activity and shortens duration of chemically induced seizures in animals.⁴¹ Importantly, PQQ achieves this effect without inhibiting normal NMDA receptor performance or baseline behavior.41

Damage to spinal and peripheral nerves causes substantial loss of function in older adults, the result of major or minor trauma and bony degeneration of the spinal column. Such functional losses lead to decreased mobility, impaired bowel and bladder function, loss of sexual enjoyment, and early death from complications. 52,53 Dramatic results have been achieved in animals that capitalize on POO's stimulation of nerve growth factor production and secretion. PQQ-induced nerve growth factor stimulation accelerates growth of cells that produce nerve cells' vital insulating sheaths and speeds natural repair of damaged nerves. In one study, a one-centimeter gap in the sciatic nerve underwent rapid healing after treatment with PQQ, demonstrating improved nerve conduction velocity, strength of the nerve impulse, and increased numbers of nerve cells inside the sheath.9

Improving Immunity and Cardiovascular Health

POO's remarkable anti-aging benefits are not restricted to the brain. Emerging science is demonstrating remarkable effects on two other systems vital to your longevity: the heart and the immune system.

Mitochondria make up an astonishing *one-third* of the mass of the human heart.⁵⁴ Reliable quality control of cardiac mitochondria is therefore a major new target in preventing heart disease.⁵⁵ PQQ is a highly effective cardioprotective agent as a result of its free radical scavenging and mitochondrial protecting characteristics.56,57

POO treatment either before or after experimentally induced heart attacks in animal models has multiple beneficial effects. POO reduced the size of the damaged (infarcted) area of heart muscle, resulting in a desirable increase in pumping pressure from the left ventricle.⁵⁶ Treatment also reduced the number of episodes of ventricular fibrillation, a common and deadly complication of heart attacks. In a related study, PQQ performed as well as the prescription heart medication metoprolol in reducing infarct size. And POO proved superior to metoprolol in protecting mitochondria from oxidative damage arising from the infarction.⁵⁸

Immune system cells rely heavily on adequate supplies of PQQ for normal function.²⁷ That's especially important for older people, in whom immune function reliably falls off with increasing age. **PQQ deficiency** produces defects in multiple branches of the immune system, impairing its ability to respond to invading stimuli and raising the risk of infection.^{27,59} A human equivalent dose of as little as 100-400 micrograms of PQQ per day maximizes sensitivity of important B- and T-lymphocytes (infection-fighting white blood cells) to external stimuli.²⁷

Summary

Loss of mitochondrial function is both a cause and a consequence of aging, producing a vicious cycle of oxidative damage that destroys brain cells. While antioxidant intake is critical, researchers now recognize it as only one part of a comprehensive preventive strategy.

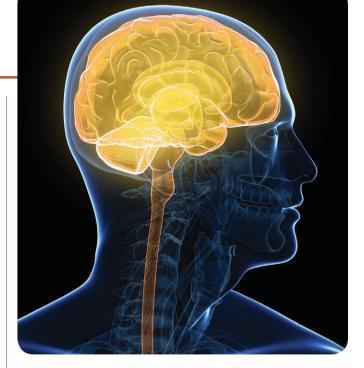
The nutrient POO, essential for many forms of life on Earth, comprises a powerful strategy to combat brain aging. PQQ protects mitochondria from cumulative oxidative damage and stimulates growth of healthy new mitochondria, thereby restoring youthful brain cell function.

POO's effects on brain mitochondria, coupled with its other beneficial neuroprotective characteristics. make it a natural solution for preserving brain function as you age. Taken together with POO's recently discovered cardioprotection and well-established immune enhancement, there is every reason to include POO in your supplement program. •

If you have any questions on the scientific content of this article, please call a Life Extension® Health Advisor at 1-866-864-3027.

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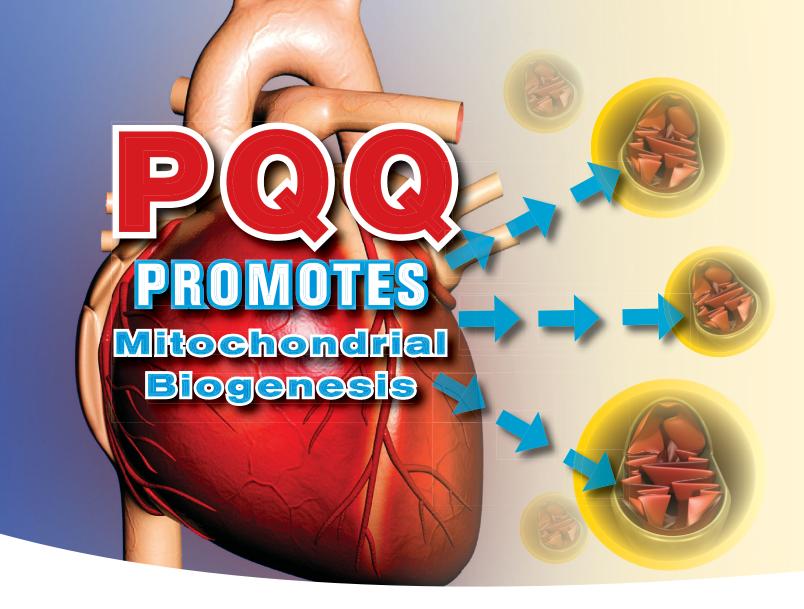
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Critical Importance of Mitochondria

Back in 1983, **Life Extension**® was the first to introduce **CoQ10** as a proven method to enhance **mitochondrial** energy production.

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Mitochondria are cellular energy generators that supply virtually all the power your body requires for a healthy life span. An abundance of published studies underscores the critical importance of the *mitochondria* to <u>overall</u> health, especially as we age.⁸⁻¹⁴ Energy-intensive organs like the heart and brain are *dense* with mitochondria.

Until recently, the <u>only</u> natural ways for aging individuals to increase the number of mitochondria in their bodies were long-term calorie restriction or exhaustive physical activity—which are difficult or impractical for most people to implement.

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The Ultimate Cell Rejuvenator

The enormous amount of energy generated within the mitochondria exposes them to constant free radical attack. The resulting *mitochondrial decay* is a hallmark of aging.

PQQ protects and augments delicate mitochondrial structures to promote *youthful* cellular function in **three** distinct ways:

- Antioxidant power. Like CoQ10, PQQ is a highly potent antioxidant. Its extraordinary molecular stability enables it to facilitate thousands of biochemical reactions in the mitochondria, without breaking down, for maximum antioxidant and bioenergetic support.¹⁵
- Favorably modulates gene expression. PQQ activates genes that promote formation of new mitochondria⁷—and beneficially interacts with genes directly involved in mitochondrial health. These same genes also support healthy body weight, normal fat and sugar metabolism, and youthful cellular proliferation.¹⁶
- Mitochondrial defense. Mitochondria possess their own DNA, distinct from the DNA contained in the nucleus. Unfortunately, compared to nuclear DNA, mitochondrial DNA is relatively unprotected. PQQ's antioxidant potency and favorable gene expression profile act to <u>support</u> mitochondrial defense.

Vital Protection for the Aging Heart and Brain

PQQ is an **essential nutrient**, meaning your body cannot make it on its own. A growing body of research indicates that PQQ's unique nutritional profile supports heart health <u>and</u> cognitive function—alone <u>and</u> in combination with CoQ10.^{17,18} This comes as no surprise, given how much energy these vital organs need.

Research shows that **PQQ** supports **heart cell function** in the presence of free radicals and promotes blood flow in heart muscle.¹⁹

When taken in combination with **CoQ10**, just **20 mg per day** of **PQQ** has been shown to promote **memory, attention, and cognition** in maturing individuals.²⁰

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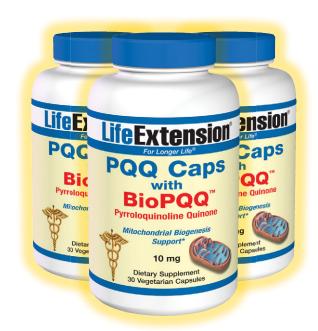
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Life Extension® has identified a purified, highly potent form of PQQ from Japan that is produced through a <u>natural</u> fermentation process. The result is the highest quality PQQ available on the market today called **BioPQQ™**.

A bottle containing **30 10 mg** vegetarian capsules of **PQQ Caps with BioPQQ™** retails for \$24. If a member buys four bottles, the price is reduced to just **\$16.50** per bottle.

A 10 mg dose of **PQQ** is also included in the **Mitochondrial Energy Optimizer with BioPQQ**™ and **Mitochondrial Basics with BioPQQ**™ formulas. **Contains rice.**



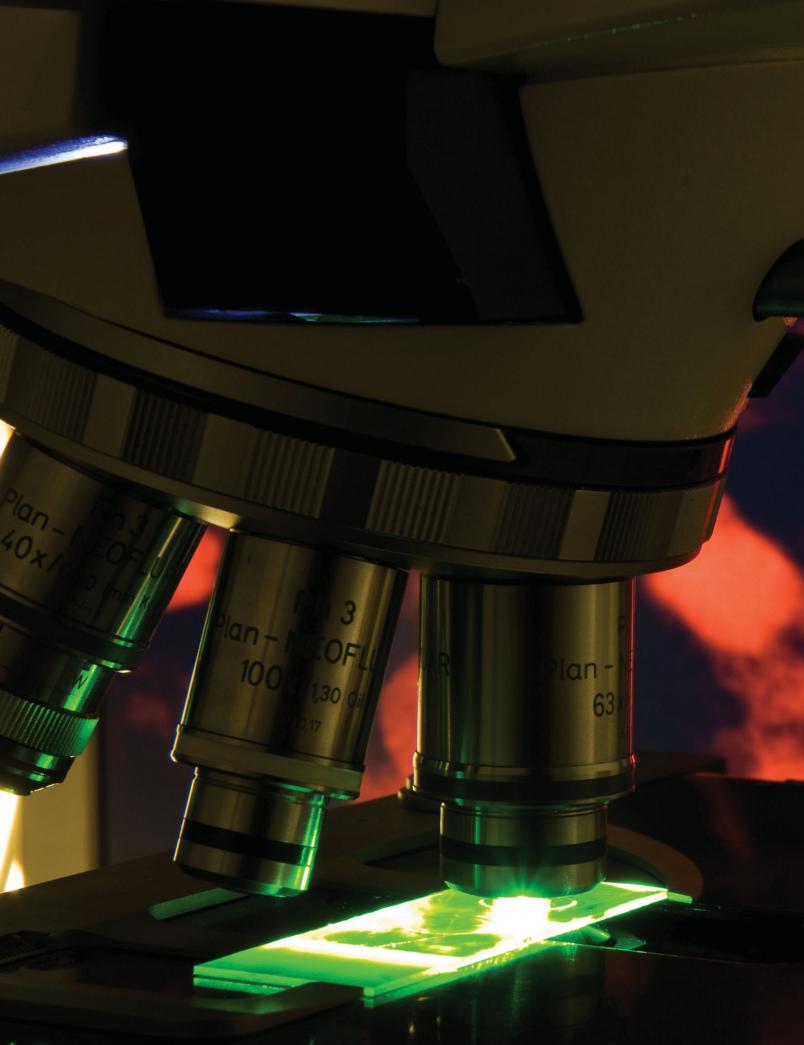
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The INFLAMMATORY FACTOR Underlying MOST CANCERS

BY DAVID HOFFNUNG

Implicated in the onset of 95% of all cancers is a common but under-recognized molecule most people have never heard of: nuclear factor-kappaB or NF-kB.1-3 Emerging research is validating the danger it poses to maturing individuals.

For example, a landmark study⁴ published late last year confirmed, for the first time, NF-kB's central role in the onset of **malignant breast cancer**.

A team of researchers found that breast cancer cells require a specific inflammatory cascade in order to proliferate and metastasize.

As one of the proteins that activates genes involved in inflammation, NF-kB is the master regulator of this pathologic cancer-causing process.

Fortunately, there exists a broad array of nutrients many Life Extension® members already take that have been shown to neutralize and even reverse the cancer-causing inflammatory cascade mediated by NF-kB.

In this article, a comprehensive survey of NF-kB-inhibiting compounds is detailed. You will learn how NF-kB triggers the growth and development of many kinds of tumors, operating as the master switch for cells "pre-loaded" with cancer-causing genes. You'll also discover compelling evidence about low-cost interventions that suppress NF-kB, switch off lethal cancer genes, and disrupt the inflammatory cascade cancer cells need in order to spread. >>

Since its discovery in 1986, NF-kB has been known to be closely associated with development of cancer.⁵ Today we know that most, if not all cancers have abnormally high levels of active NF-kB, which keeps them in a state of sustained inflammation. 6 Conversely, certain so-called oncogenes (abnormal genes that can initiate cancer development) act in part by activating NF-kB.7 Together these facts conspire to produce a steady stream of inflammatory and cancer-promoting cytokines within a growing tumor.8

The production of these cell signaling molecules makes it much more likely that a given cancer-prone cell will go on to form a malignant tumor. It can also mean that a given tumor is much more resistant to radiation and chemotherapy, since NF-kB generally promotes cancer cell survival.9

The NF-kB-Cancer Blockade

NF-kB triggers the cascade of events that link inflammation with cancer development. Once that process has been initiated, NF-kB continues to fan the flames, contributing to cancer cells' invasiveness, ability to stimulate a fresh blood supply, and ability to spread by metastasis throughout the body.

But our knowledge about the damage done by NF-kB can be turned to good. Almost as soon as it was discovered, forward-thinking researchers recognized that if they could block activation of NF-kB, they might break an essential link in cancer development.

We've known for nearly 12 years, for example, that we could reduce inflammation in colon cancer cells by treatment with the spice **curcumin**, a well-known inhibiter of NF-kB activation.¹⁰ Blocking NF-kB activation can also sensitize human prostate cancer cells to apoptosis—the programmed cell death that keeps cancers under control.11 And natural molecules that inhibit NF-kB can limit inflammatory changes in the pancreas caused by alcohol.12

The potential for blocking NF-kB offers hope in the context of the deadly HER-2 breast cancer gene. HER-2 cancers are normally highly treatment-resistant and carry a poor prognosis. Blocking NF-kB can make the breast cancer cells more amenable to chemotherapy.8,13

Not surprisingly, Big Pharma is intensely interested in discovering new (and profitable) drugs that block NF-kB.¹⁴ But nature has provided us with a substantial number of substances that block or inhibit the pro-inflammatory, pro-cancer effects of renegade NF-kB—and they are readily available, affordable, and safe. Let's look at a sampling.

Nutrients to Quell NF-kB's Inflammatory, Pro-Cancer Effects

By some estimates, anywhere from 67% to 90% of human cancers could be prevented by modifications to lifestyle, specifically to diet.14,15 Suppression of NF-kB by phytochemicals present in fruits, vegetables,



and many spices has in fact been said to provide the molecular basis for their ability to prevent cancer. 16,17

The following nutraceutical agents can bring us closer to successful chemoprevention through their ability to oppose NF-kB's pro-inflammatory, procancer effects. Unlike single-targeted drugs, most nutraceuticals are multitargeted. That gives them astonishing efficiency and can augment their effectiveness, especially when acting to interrupt complex signaling pathways like those involved with NF-kB.¹⁸

Antioxidants

Oxidative damage to DNA, proteins, and other vital structures is a major factor in the initiation, promotion, and spread of cancers. That makes antioxidants important agents in the fight to prevent cancer. 19 But many antioxidants can also block NF-kB, adding a valuable degree of specificity to their effects. They do this via a number of closely related but distinctive mechanisms.14

One important way of blocking NF-kB activity is to prevent it from becoming activated by moving into the cell nucleus. That denies NF-kB access to the proinflammatory genes that it regulates, thereby preventing the inflammatory response before it starts. Cells with greater levels of internal antioxidant defenses generally have less NF-kB activation. Increasing those defenses is correlated with reduced NF-kB expression in cell nuclei.20,21

A large number of antioxidants are under review for specific NF-kB-blocking activity. These include vitamins C and E, carotenoids, the so-called thiol antioxidants (glutathione, thioredoxin, and lipoic acid), flavonoids and polyphenols, selenium, zinc, and others. 14,19,22,23 The flavonoid luteolin, for example, can sensitize cancer cells to chemotherapy agents by suppressing a variety of cell-survival pathways, including NF-kB.²⁴ And zinc, an essential trace element, inhibits NF-kB indirectly by inducing a separate regulatory protein called A-20.25

Milk thistle extracts enhance prostate cancer cell death through apoptosis by reducing levels of NF-kB in the cell nucleus.26,27 The tomato carotenoid pigment lycopene prevents NF-kB activation in prostate cancer by a different mechanism.²⁸ A form of vitamin E called gamma-tocotrienol downregulates NF-kB in pancreatic tumor cells.²⁹ Even certain coffee components, the antioxidant molecules called diterpenes, suppress NF-kB activation.30 And a host of antioxidant compounds derived from black pepper reduce NF-kB activation.³¹ Finally, the tomato polyphenol lycopene reduces NF-kB activation in a variety of cancer cell types.28



The Inflammatory **Factor Underlying Most Cancers**

- A breakthrough study revealed that inflammation is necessary in order for breast cancer cells to proliferate and metastasize.
- The master control complex called nuclear factor-kappaB or NF-kB triggers and regulates this inflammatory cascade, which has been implicated in the onset and development of 95% of all cancers.
- NF-kB stimulates genes to produce inflammatory cytokines and other signaling molecules that promote cancer growth and development.
- Inhibition of NF-kB is a powerful target for cancer prevention and has been shown to reduce cancer-stimulative events at every level of carcinogenesis (cancer development).
- A broad array of natural dietary interventions powerfully inhibits pathologic NF-kB activity, comprising a critical strategy in the fight against cancer.

Clearly, the list of antioxidant nutrients with NF-kBsuppressing effects is growing rapidly. A good general rule for the present is to make certain that you are including an adequate supply of potent, high-quality antioxidants as part of your health regimen. Let's now turn to some specific nutrients that have additional NF-kB-blocking effects that can optimize your cancer protection.

Curcumin

Curcumin is an extraordinary molecule extracted from the spice we know as turmeric. It is among the most potent of the natural inhibitors of NF-kB, and as such has been intensely studied for its anticancer potential.32

Curcumin is beneficial at all three major stages of carcinogenesis: initiation, progression, and promotion.33 Most of that benefit has been linked to its inhibition of NF-kB and subsequent inhibition of pro-inflammatory signaling.33 NF-kB inhibition is also credited with curcumin's ability to inhibit cancer cell proliferation, invasion, new blood vessel formation, and metastasis.34 Another major consequence of NF-kB inhibition by curcumin is to allow the natural course of apoptosis to take place in cancer cells, triggering them to die off rather than multiply and spread.35

Curcumin is showing promise in treating or preventing some of mankind's most common, and most dangerous, malignancies. These include chronic

NF-kB and the Cancer Switch

NF-kB is scientifically known as a "transcription factor."92 It regulates how and when the information in certain human genes becomes translated into new protein molecules.

Key among those genes are those that promote inflammatory responses, many of which also promote cell growth, survival, and transformation into cancer. 6,22 In fact, in the early 2000s it became clear that NF-kB was the "missing link" between inflammation and cancer.93 Of course, that's not its only role.

In healthy people, NF-kB serves a vital function just by remaining inactive. That helps to keep the powerful cellular machinery of inflammation running just at idle. When a threat arises, however, NF-kB becomes activated and goes to work within the nuclei of cells (hence the term "nuclear factor").7

A cell's nucleus is where all the genetic information is stored in the form of DNA in our chromosomes. Under normal circumstances, NF-kB "lives" not in the nucleus, but in the cell's cytoplasm, the main body of the cell. When an infection or other foreign invader threatens, NF-kB moves from the cell's cytoplasm into its nucleus.7 Once inside the nucleus, NF-kB binds to specific portions of the chromosome, where it activates transcription of a gene into its protein product.

Many genes that come under the control of NF-kB are pro-inflammatory genes, that is, their products are inflammatory cytokines such as interleukins, tumor necrosis factor, and others. Once the inflammatory stimulus goes away, NF-kB normally disengages from the chromosome and returns to the cytoplasm, and the inflammatory gene stops producing its cytokines. In other words, under normal circumstances, inflammation dies away when it

But that's only under normal circumstances, and cancer is anything but normal.

Curcumin



lymphocytic leukemias, lymphomas, pancreatic cancers, bladder cancer, colon cancer, and cancer of the bile ducts. 36-44 And curcumin can help to suppress the cancer-provoking inflammation generated by obesity, one of today's most pressing health problems. 45

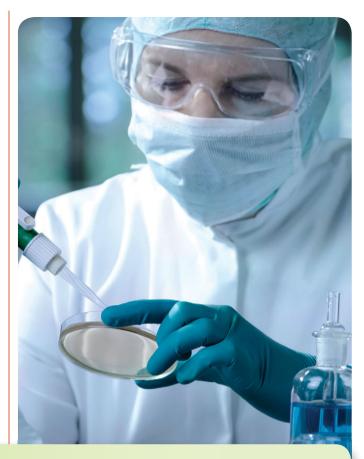
Garlic Extracts

Garlic, like turmeric, has a lengthy history of use in traditional medical systems. When garlic extracts are allowed to age, they stabilize and retain strong antioxidant powers that indirectly down-regulate NF-kB.46 Individual components from such garlic extracts include diallyl sulfide, diallyl disulfide, and thiacremonone, all of which demonstrate direct NF-kBinhibitory activities. 17,47,48

NF-kB inhibition by garlic extracts is showing promise in preventing growth and spread of many tumor types, including colon cancer, malignant neuroblastoma, and melanoma. 47-51 Garlic extracts also powerfully induce cancer cell death by apoptosis.^{49,51}

Ginger

Ginger is a spice from southern Asia, that has many health-giving specific components.⁵² Gingerol is the chief of these; it is a phenolic compound with



Current NF-kB Research

Here's what we know in 2011 about the relationship between NF-kB and cancer, courtesy of Dr. Sahdeo Prasad of the Cytokine Research Laboratory at the MD Anderson Cancer Center in Houston:5

NF-kB becomes activated in response to a host of factors that account for as much as 95% of all cancers. These triggers include tobacco, stress, dietary components, obesity, alcohol, infections, radiation, and environmental toxins.1-3

NF-kB activation has been linked with the transformation of normal cells into cancer cells (thus NF-kB can be thought of as promoting cancer development). 1,95

NF-kB is active at a higher rate in cancer cells than in healthy cells. A developing cancer also increases the amount of active NF-kB.6,13

NF-kB has been linked to the survival of dangerous cancer stem cells, the early "parent" cells of many cancers that are now known to exist in otherwise normal tissues. Cancer stem cells can "self-renew" more successfully than healthy cells.

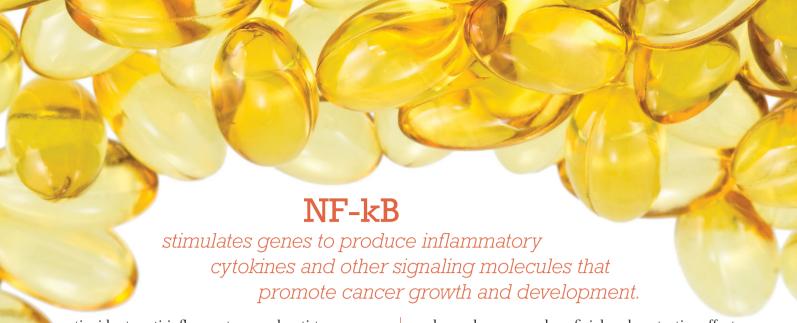
NF-kB stimulates production of gene products that keep cancer cells from dying naturally through the process of programmed cell death, or apoptosis.96

NF-kB also increases production of gene products associated with proliferation, the rapid and repeated cell divisions that give cancers their aggressive growth characteristics.97

NF-kB controls expression of gene products linked with invasion, new blood vessel growth (angiogenesis), and metastatic spread of tumors. 96,98-100

Many carcinogens activate NF-kB, but most effective cancer-preventing (chemopreventive) compounds suppress NF-kB activation. 1,15,101

Prasad notes that these observations highlight just how intertwined NF-kB is with cancer growth and metastasis. Others have gone on to point out that, though a powerful nemesis, NF-kB also offers myriad opportunities to intervene powerfully and block cancers in their tracks.8,13 As we continue to clarify the close relationship between chronic inflammation and cancer, more and more such opportunities are becoming evident.93



antioxidant, anti-inflammatory, and anti-tumor properties.⁵³ Gingerol suppresses inflammation by blocking the movement of NF-kB into the nucleus, with the resulting down-regulation of such inflammatory cytokines as TNF-alpha, as well as inducible nitric oxide synthase (iNOS).^{52,53} Another major ginger compound, zerumbone, suppresses NF-kB activation induced by a host of common carcinogens, blocking metastasis and invasion while increasing apoptosis.⁵⁴

Ginger extracts have been used to reduce the viability of gastric cancer cells, ovarian cancers, cancers of the breast, liver, colon, and lung, as well as UV light-induced skin cancers. 55-60

Green Tea

Green tea extracts are widely known for their benefits in preventing many common chronic diseases. Their chief constituents, the catechin family of polyphenols, are powerful antioxidants that are given credit for most of tea's beneficial effects. ^{61,62} Catechins act at many different targets. ^{18,63,64} Inhibition of NF-kB by green tea catechins has recently been found to be a major mechanism by which they block each stage of carcinogenesis. ⁶³⁻⁶⁵

NF-kB inhibition by green tea extracts rich in epigallocatechin gallate (EGCG) has been of particular interest. RGCG has been shown to produce apoptosis in experimental prostate cancer, inhibit growth of squamous cell carcinomas of the head and neck, inhibit production and limit invasion of experimentally induced breast cancers, reduce the incidence of carcinogen-induced lung cancers, and sensitize melanoma cells to growth inhibition by other agents. RGCG has been shown to produce apoptosis in experimentally induced breast cancers, reduce the incidence of carcinogen-induced lung cancers, and sensitize melanoma cells to growth inhibition by other agents.

Isoflavones

Isoflavones and isoflavonoids are molecules found in many plants, particularly the bean family. Plants use them as disease-fighting compounds, and also as stimulants for the symbiotic bacteria that help them use nitrogen to build proteins. Isoflavones from soybeans have many beneficial and protective effects in humans as well. The low rate of hormone-related cancers (e.g., breast and prostate cancers) in Asian countries is partially attributed to the high consumption of soy isoflavones in most traditional Asian diets.^{72,73}

Soy isoflavones like genistein are powerful modulators of NF-kB.⁷³ Genistein acts both by preventing NF-kB's movement into the nucleus to activate inflammatory genes and also by preventing earlier molecular events that would lead to its activation.⁷⁴ Genistein promotes cancer cell death by apoptosis as a result of down-regulation of NF-kB.⁷⁴

Isoflavone blockade of NF-kB effects contributes to prevention and modulation of colon⁷⁵ and lung cancers. ⁷⁶ Isoflavone treatment also makes certain cancer cells increasingly susceptible to radiation and chemotherapy effects, largely because decreased NF-kB activity impairs the cancer cells' survival signaling pathways. ^{73,77,78}

Omega-3 Fatty Acids

Diets rich in omega-3 fatty acids from fish are associated with reduced risk of several types of cancer and other chronic conditions. The omega-3s are known to be powerful anti-inflammatory agents through their effects on the important inflammatory enzymes like COX-2 and 5-LOX. But recent research is also showing that omega-3s can inhibit NF-kB activation by multiple mechanisms, giving them still more powerful control over the inflammation that can lead to cancers.

Omega-3s are now associated with NF-kB-related reduction in inflammation-mediated growth of pancreatic, breast, prostate, colon, and skin cancer cells. 82-90 In the case of pancreatic cancer, the omega-3 EPA preserved the integrity of the natural inhibitor of NF-kB. 82 Omega-3s used in combination with conventional chemotherapy act synergistically to kill tumor cells, largely through NF-kB inhibition that promotes apoptosis. 89,91

Summary

A breakthrough study published late last year revealed that inflammation is necessary in order for breast cancer cells to proliferate and metastasize. The master control complex called nuclear factor-kappaB or NF-kB triggers and regulates this inflammatory cascade, which has been implicated in the onset and development of 95% of all cancers.

NF-kB stimulates genes to produce inflammatory cytokines and other signaling molecules that promote cancer growth and development. Inhibition of NF-kB is a powerful target for cancer prevention and has been shown to reduce cancer-stimulative events at every level of carcinogenesis (cancer development). A broad array of natural dietary interventions powerfully inhibits pathologic NF-kB activity, comprising a critical strategy in the fight against cancer. Scores of new studies detail the effects of NF-kB inhibition on cancer prevention. The low rates of cancers in countries with high dietary intake of natural NF-kB inhibitors points strongly to the value of such agents as functional foods and as nutraceuticals.

In addition to the many natural products outlined here, there's now strong evidence that vitamin D, Withania somnifera (ashwagandha), and pomegranate extracts have similar NF-kB-blocking capabilities. 102-104

The good news for **Life Extension** members is that they have been using potent NF-kB-inhibiting nutrients for many decades.

If you have any questions on the scientific content of this article, please call a Life Extension® Health Advisor at 1-866-864-3027.

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Folate is involved in **neurotrans**-**mitter synthesis** and critical **enzy**-**matic reactions** throughout the body.
By depleting excess **homocysteine**, folate benefits cardiovascular health and nervous system function.

Those who take ordinary folate supplements, however, may not be experiencing its full spectrum of effects. This is because once ingested, not everyone converts folate to its biologically active form called *5-methyltetrahy-drofolate* (5-MTHF). Research shows that in a large proportion of the population, *genetic enzyme deficiencies* prevent the conversion of folate to *5-MTHF*, leaving many vulnerable to low blood folate levels (and higher-than-desired homocysteine).

A BIOACTIVE FORM OF FOLATE

A more useful approach is to take the bioactive folate **5-MTHF** directly, which has been declassified as a drug and is now available as a dietary supplement. **5-MTHF** has been shown to dramatically raise blood serum folate levels² compared with folic acid supplementation. This bioactive folate is up to **seven times** more bioavailable than folic acid. This greater *bioavailability* is especially important in people who have a genetic enzyme deficiency³ since it requires no conversion to become metabolically active.

People with elevated homocysteine levels have a greater risk of cognitive decline.⁴ Unlike folic acid, **5-MTHF** is able to cross the blood-brain barrier, which is especially important for people with cognitive difficul-

ties, to enhance the synthesis of *acetylcholine* in the brain—the neurotransmitter associated with memory.

Studies also show that the effectiveness of **5-MTHF** can be further enhanced by co-supplementing with methylcobalamin (the active form of vitamin B12),⁵ vitamin B6, and riboflavin.⁶ **5-MTHF** is <u>seven</u> times more bioavailable than regular folic acid.

A bottle containing **100** vegetarian capsules of **Optimized Folate** providing 1,000 mcg of bioactive folate in each capsule retails for \$28. If a member buys four bottles, the cost is only **\$18.75 per bottle**.

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In recent studies comparing the effects of standard curcumin against turmeric extracts comparable to Super Bio-Curcumin®, researchers observed:1,2

- Nearly twice the support for immune health.
- Approximately twice the support for inflammatory issues.
- Almost double the **antioxidant** support.

A separate study³ indicated powerful support for heart health using a comparable extract.

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Absorption studies further demonstrate that just one 400 mg vegetarian capsule per day of Super Bio-Curcumin® supplies the equivalent of 2,500-2,800 mg of commercial curcumin supplements.

A bottle containing 60 vegetarian capsules of Super Bio-Curcumin® retails for \$38. If a member buys 4 bottles, the price is reduced to only \$26.25 per bottle.

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AGE-DEFYING DARA

Olympic swimming icon Dara Torres talks to Life Extension® about ignoring your age, the power of amino acids, and her quest to make the 2012 Olympics as a 45-year-old.

BY JON FINKEL

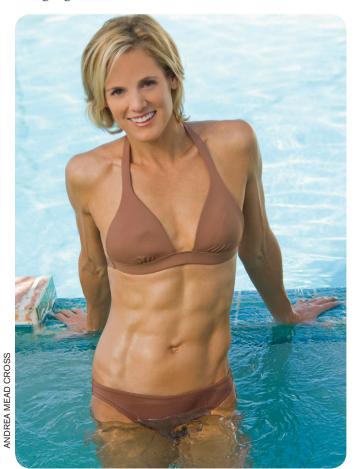




"The water doesn't know how old you are."

This was the mantra of 5-time Olympian Dara Torres in the lead-up to the 2008 Olympics in Beijing, China. Substitute your goals for the word "water" in this now famous quote and it could become your personal mantra as well. If you're thinking about taking up running, "the road doesn't know how old you are" applies to you. Same goes for the grass on a golf course; or the clay on a tennis court; or if you've always wanted to learn an instrument, a piano or guitar doesn't know how old you are either.

Torres' quote is full of limitless possibilities, but its weight is grounded in the concrete achievement of her performance at the 2008 Olympic Games, where, as a 41-year-old mother, she won three silver medals—one of them a mere one one-hundredth of a second from being a gold.



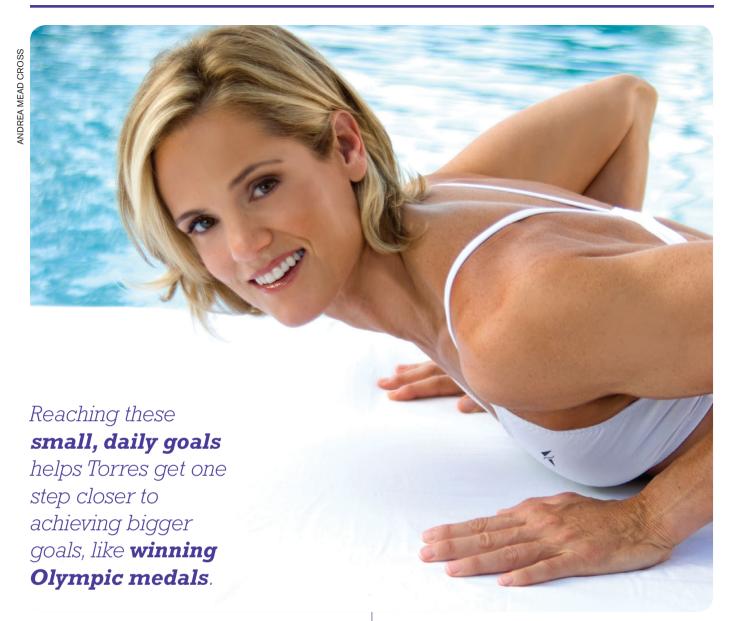
All told, the three medals Torres won at the 2008 games brought her lifetime Olympic medal total to twelve (including three gold medals). With an Olympic career that has spanned 24 years, there have been innumerable "firsts" for which she is famous, but the one that garnered her the most attention was the achievement of becoming the first woman in history to make an Olympic swim team past the age of 40. In a sport where women are often crowned world champions before they are old enough to be crowned prom queen, what Torres has done simply defies what we thought we knew about the limits of the aging human body.

OUTSMARTING FATHER TIME

"At my age, you can't just wake up every morning and assume that you have recovered from the previous day's workout," Torres says. "The water doesn't know my age, so I don't get any breaks. That was my philosophy and my guiding light. I have to be smarter about what I do now than when I was younger. I need to be more focused and conserve my energy for maximum efficiency."

For those unfamiliar to the way swimmers train, this last concept of conserving energy for maximum efficiency is particularly important. When training for a major meet, swimmers often log over 10,000 meters a day in the pool, usually in a morning and afternoon session, with a dry land workout mixed in three or four days a week. Swimmers need to build up a powerful aerobic base so that they can hold perfect form throughout an entire race. Fatigue is the single biggest enemy of perfect form, which is why swimmers bank so many meters each day. The idea is to eliminate fatigue from the racing equation as much as possible in order to focus on the things that win races: powerful starts, efficient strokes, flawless turns, and well-timed wall touches, among the most critical.

When Torres talks about conserving energy, she's talking about recognizing how her body has changed over the years and how it responds to training. There's no point in hammering away at the same workout she did in her twenties if the body she has in her forties won't respond well to it. The key is to constantly



evaluate what currently works, not what worked last week, last month, or last year. For Torres, that evaluation has led to a renewed focus on the details.

"My training now is much more razor-focused on replicating my stroke in the water," she says. "My trainer, Andy O'Brien, and my coaches have all created a very high-level program where I waste no time, energy, and effort. I do everything with a purpose. Everything has a goal in mind."

Reaching these small, daily goals helps Torres get one step closer to achieving the bigger goals, like winning Olympic medals. To ward off the monotony of performing the thousands and thousands of daily repetitions of tiny movements in the water that are necessary to swim the perfect race, Torres finds inspiration in a number of places, from her own mother to mothers across the world.

MOTHERLY MOTIVATION

"I look at mothers all over the world who I have met and when they tell me their stories they move me in a way that is so intense," Torres says. "I am part of a community that includes businesswomen, sportswomen, housewives, teachers, doctors, and mothers. Each and every one of them has their dreams."

Whatever your particular dream is, the overall theme of Torres' philosophy is that age should never be a reason not to achieve it.

"As long as someone has a passion, a desire to be the best, I say they should have that opportunity," she says. "I draw on the passion of women like my mother and other great women who continue to achieve excellence at any age."



The flip side of this, of course, is that millions of women look to Torres for their own inspiration, making the relationship between her and her fans a symbiotic one.

"It is insanely flattering how many women want to share with me what watching my journey meant to them and how it has changed their lives," she says. "Or when I hear how they bought one of my books, *Age is Just a Number* or *Gold Medal Fitness* because I motivated them. My Twitter following has exploded (@daratorresswims) and I can share my life in a real, honest way. And my fans can communicate back to me."

Among this communication is her announced desire to compete as a 45-year-old in the 2012 Olympic Games in London, England.

"The truth is, in many ways I feel like 2012 is my opportunity to give back to so many women and moms who have given to me emotionally through a short comment or e-mail," Torres says.

24 YEARS OF OLYMPIC MEDALS

1984

Gold Medal, 4x100-meter freestyle relay

1988

Silver Medal, 4x100-meter medley relay **Bronze Medal**, 4x100-meter freestyle relay

1992

Gold Medal, 4x100-meter freestyle relay

2000

Gold Medal, 4x100-meter freestyle relay Gold Medal, 4x100-meter medley relay Bronze Medal, 50-meter freestyle Bronze Medal, 100-meter freestyle Bronze Medal, 100-meter butterfly

2008

Silver Medal, 4x100-meter medley relay **Silver Medal**, 4x100-meter freestyle relay **Silver Medal**, 50-meter freestyle

THE ROAD TO 2012

Just as Torres' training has evolved through the years, so has her nutrition and eating habits. Like many athletes, she didn't have a specific "diet" when she first started training as a teenager. The main goal at that age was to eat as much as she could to fuel the next workout. Our knowledge about how to use foods as part of training and recovery has improved exponentially over the years, which is why Torres now pays close attention to what she eats.

"When I was younger, I ate anything that was put in front of me," she says. "I am still not a 'dieter' but I am more aware of what I put into my body. Fitness Nutrition's Amino Acids have become a huge factor in my recovery. I have also changed over to Susta, which is an all-natural sweetener. I have learned that you should eat sensibly but nothing too extreme. Living healthy is also about living happily."

Living happily in 2012 will mean making the United States Olympic Swim Team at an age when many of the women Torres swam against in her supposed "prime" have been retired for twenty-five years. We'll have to wait to find out whether she succeeds in making the team, but one thing's for certain: whether she's in London at the end of next July or not, Torres has already succeeded in proving that age, truly, is just a number. •





DARA'S SECRET WEAPON: AMINO ACIDS

PRE-WORKOUT

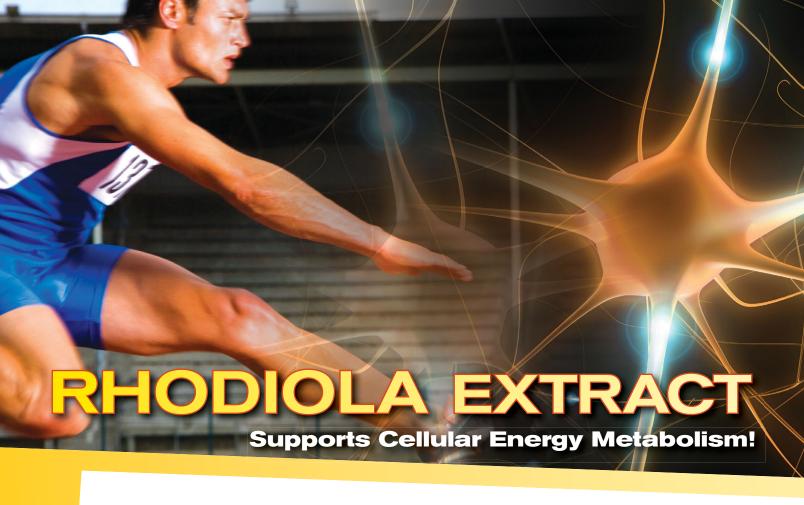
Dara Torres starts her day with a comprehensive meal replacement shake that includes a full battery of multivitamins and minerals, along with extracts from organic superfoods, potent enzymes, stomach-aiding probiotics, herbs, and antioxidants. The shake includes supplements *Life Extension®* readers are familiar with, like CoQ10, alpha lipoic acid, quercetin, resveratrol, and many others. She takes this one hour prior to exercise.

POST-WORKOUT

Post-exercise, she takes an amino acid supplement to help boost her recovery and aid in muscle repair. While training for major meets or the Olympics, she takes amino acids several times a day.

Branched chain amino acids are valuable to the human body in many ways. Since cells are able to oxidize BCAAs in their mitochondria, they can be used to provide an energy boost and may serve as fuel sources for muscles. BCAAs are also referred to by athletes as building blocks of muscle and can be taken both during, before, and after workouts to increase endurance and performance. For non-athletes, BCAAs can be used to improve overall energy levels and there have been several studies that show BCAAs may be a potent longevity booster as well.

For more information on Dara Torres, visit www.daratorres.com.



A common complaint among older adults is loss of physical and mental energy.

As people age, their cells' ability to produce energy is diminished. Many scientists believe that cellular energy deficit is a critical factor in the onset of many problems.

The Russian herb **rhodiola** (Rhodiola rosea) has demonstrated a remarkable ability to support cellular energy metabolism.* **Rhodiola** promotes higher levels of ATP (adenosine triphosphate) and CP (creatine phosphate) in the cellular power plants known as the mitochondria, thus providing more of the energy molecules need to power many daily activities.¹

In a human trial, *rhodiola* aided exercise endurance after just a single dose.² In another double-blind, crossover human trial, *rhodiola* increased several measures of mental performance, including associative thinking, short-term memory, calculation, concentration, and speed of audiovisual perception. Statistically significant improvements were reported after just two weeks of supplementation.³

Life Extension® has formulated a **Rhodiola Extract** that provides **250 mg** of *Rhodiola rosea* extract in each capsule.

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Unlike other rhodiola supplements on the market today, **Rhodiola Extract** uses only the authentic *Rhodiola rosea* species and is standardized to contain the proven 3:1 ratio of 3% *rosavins* and 1% *salidrosides*—matching the concentrations of active "adaptogens" used in clinical trials.

Rhodiola Extract is an extremely low-cost supplement. The retail price of a bottle of 60 vegetarian capsules (a two-month supply) of Rhodiola Extract is just \$11.75. If a member orders four bottles, the price is reduced to only \$7.94 per bottle!

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Caution: Individuals with manic or bipolar disorder should not use Rhodiola. Take early in the day if Rhodiola Extract interferes with your sleep.



Item # 00889

To order Rhodiola Extract, call 1-800-544-4440 or visit www.LifeExtension.com

The ABCs of BCAAs

Muscle Maintenance.
Muscle Growth.
Muscle Recovery.
It's just that simple.

One of the strongest names in the supplement industry proudly introduces a product designed to keep you strong:

Life Extension®'s Branched Chain Amino Acids

After age 50, it's estimated that you'll begin losing about 1% of strength per year due to muscle deterioration. Without proper exercise and supplements, that rate may increase exponentially, causing a rapid decrease in quality of life.

Chain Amino Acids provides all three BCAAs to support healthy muscle maintenance:

1,200 mg of L-Leucine 600 mg of L-Isoleucine 600 mg of L-Valine



Item # 01253

Muscles Matter. Protect yours with Branched Chain Amino Acids.

A bottle containing 90 vegetarian capsules of **Branched Chain Amino Acids** retails for \$19.50. If a member buys four bottles, the price is reduced to **\$12.75** per bottle.

To order **Branched Chain Amino Acids**, call 1-800-544-4440 or visit www.LifeExtension.com

Contains rice.

Caution: Individuals with ALS or disorders impairing the metabolism of branched chain amino acids should not use this product.



Turns out, the advice you got as a child to "eat your greens" could pay major dividends as an adult. Scientists have recently identified extracts from green vegetables like broccoli, cabbage, and Brussels sprouts that help maintain healthy hormone levels. Having optimal hormone levels is essential to any antiaging strategy. In addition, many of these extracts contain *glucosinolates*, *isothiocyanates*, *carnosic acid*, and *carnosol* – bioactive compounds that have a wide variety of favorable effects on estrogen metabolism and cell division.¹⁻⁴

Triple Action Cruciferous Vegetable Extract with Apigenin combines a broccoli Super Concentrate with watercress, Indole-3-Carbinol (I3C), rosemary extract, cat's claw extract, cabbage extract, DIM, and apigenin, a powerful plant flavonoid found in plants such as parsley and celery, to form the most comprehensive cruciferous vegetable supplement available.⁵

For those who don't have the time to consume each of the above vegetables each and every day, **Triple Action Cruciferous**Vegetable Extract with Apigenin is the perfect solution to making sure your body gets the important extracts it needs from these crucial food sources. For those weighing less than 160 pounds, just one vegetarian capsule a day provides optimal potencies. Those weighing over 160 pounds should consider taking two capsules a day. A 60-vegetarian capsule bottle of

Triple Action Cruciferous Vegetable Extract retails for \$24.

If a member buys four bottles, the price is reduced to only

\$16.50 per bottle.

Those who want to obtain the benefits of **resveratrol** can order **Triple Action Cruciferous Vegetable Extract with Resveratrol**. Each capsule provides **20 mg** of **resveratrol** in addition to the **vegetable extracts** and retails for \$32 per 60-capsule bottle. When a member buys four bottles, the price is reduced to only **\$22.20 per bottle**.



CRUCIFEROUS VEGETABLE
EXTRACT
WITH RESVERATROL

For Cellular Protection
Optimal Hormone Balance

Polytary Supplement
Solvey Vegetarian Casarute
Solvey Veget

Triple Action Cruciferous Vegetable Extract provides the following concentrates in just one vegetarian capsule:

Broccoli Super Concentrate	400 mg
[standardized to 4% glucosinolates (16	5 mg)]
Wateren as 4.4 sector of	ΕΟ

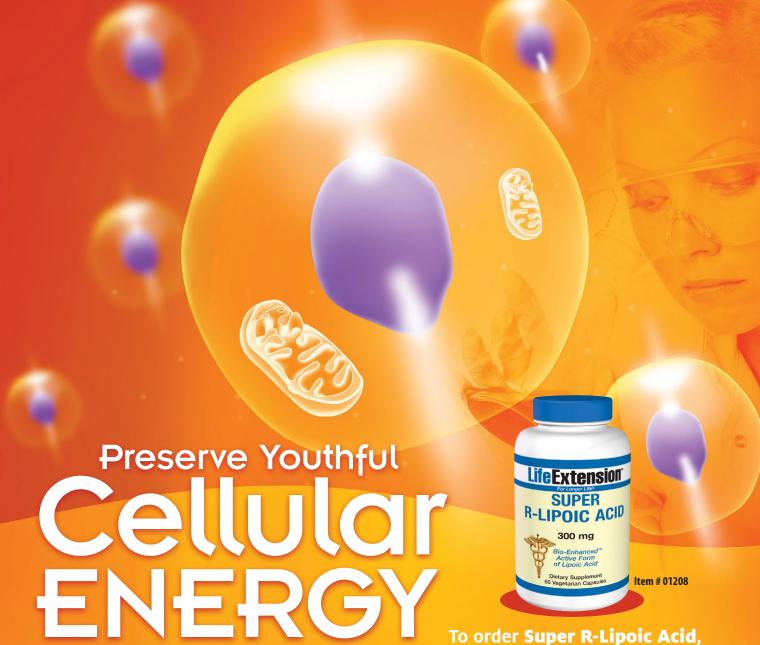
50 mg
80 mg
50 mg
50 mg
25 mg
14 mg
25 mg

Contains yeast and corn.

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To order **Triple Action Cruciferous Vegetable Extract**, call 1-800-544-4440
or visit www.LifeExtension.com



with Next-Generation LIPOIC ACID

Published studies have shown the critical importance of **lipoic acid** in supporting healthy mitochondrial function.

Unlike other forms of lipoic acid, **SUPER R-Lipoic Acid** is more bioavailable, stable, and potent, achieving 10-30 times higher peak blood levels than pure R-lipoic acid.¹ This unique **sodium-R-lipoate** can help you reach peak plasma concentrations within just 10-20 minutes² of supplementation.

Super R-Lipoic Acid provides more of the active "R" form of lipoic acid than any other supplement.

To order **Super R-Lipoic Acid**, call **1-800-544-4440** or visit www.LifeExtension.com

A bottle of **Super R-Lipoic Acid** containing 60 vegetarian capsules retails for \$49. If a member buys four bottles, the cost is only **\$33.75 per bottle**. Each capsule contains **300 mg** of stabilized, Bio-Enhanced* **Super R-lipoic acid** supplying **240 mg** of **R-lipoic acid**. Suggested dose is one capsule each day.

Contains rice.

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CAUTION: If you are sensitive to changes in blood sugar and/or being treated for diabetes with blood sugar-lowering drugs, please consult with your physician before supplementing with R-lipoic acid. In this context, start with a low dose and assess for effect. Inform your physician should you notice any changes while taking this product.





Years of clinical study have shown that resveratrol, when taken orally, may boost healthy life span by activating "longevity genes."

BY ROBERT GOLDFADEN AND GARY GOLDFADEN. MD

What may surprise you is mounting scientific data suggesting that *topical* resveratrol may provide significant protection against skin aging as well.

Dermatology researchers have found that topical resveratrol possesses 17-fold greater antioxidant potency than *idebenone*, an expensive and powerful antioxidant drug used in certain anti-wrinkle creams.

In this article, dermatology experts Robert Goldfaden and Gary Goldfaden, MD, provide *Life Extension*® readers with the most recent data on topical resveratrol's rejuvenating, protective effects on the skin. >>

Intensifying Interest in Resveratrol for Skin Protection

In nature, resveratrol functions as part of a plant's defensive arsenal. Resveratrol is an antimicrobial substance produced by plants in response to stress, infection, or strong UV radiation. In recent years, resveratrol in particular has become the subject of intense interest due to its powerful antioxidant and anti-aging properties.

It appears that resveratrol exerts its potent antioxidant effects on two distinct levels: (1) by scavenging existing free radicals and (2) by preventing their formation.

The antioxidant ability of resveratrol is known to be both potent and efficient. In fact, it has been shown to be greater than that of vitamins E and C. One study demonstrated that resveratrol was 95% efficient at preventing lipid peroxidation, compared to 65% for vitamin E and 37% for vitamin C.1

In a recent study, the antioxidant strength of 1% resveratrol was compared to that of 1% *idebenone*. Idebenone is a powerful pharmaceutical antioxidant. Its benefits include shielding the skin from environmental damage, improving the appearance of fine lines and wrinkles, reducing dryness, and smoothing skin texture. The results of the study revealed that resveratrol had a stunning 17-fold greater antioxidant capacity than idebenone!1

Topical application of resveratrol to protect against UVB-mediated skin damage as well as inhibit UVBinduced oxidative stress has been observed in a

number of additional studies.2-4 It has also been shown to prevent UVA damage and abnormal cellular proliferation.5

Resveratrol is also able to form soluble, complex molecules with certain metal ions, inactivating the ions so they cannot produce free radical formation. This action, in combination with its powerful antioxidant capability, makes resveratrol highly effective in combating the damaging effect of free radicals that leads to skin aging. Resveratrol is also reported to stimulate healthy cell proliferation as well as collagen synthesis by protecting the dermal matrix from harmful enzymes and improving the function of fibroblasts that create healthy collagen.6

Tea Extracts' Benefits for Skin Health

Scientific studies have shown that the polyphenols in tea extracts are highly effective at reducing the inflammation and oxidative stress that can destroy the health of your skin cells.7-9 Tea contains catechins, a very powerful group of water-soluble polyphenol antioxidants that are easily oxidized. **Green tea**, which is manufactured from fresh, unfermented tea leaves in which oxidation is minimal, has catechins present in significant quantities.

Epigallocatechin gallate or EGCG makes up the bulk of the total catechin content in green tea (about 10-50%) and is the most powerful of all the catechins, with an antioxidant capacity roughly 25-100 times more potent than that of vitamins C and E.¹⁰ The protective strength of this powerful antioxidant can



safeguard your skin from the ravages of UV exposure and DNA damage.11 EGCG has also been shown to help maintain or improve skin health by enhancing viability of skin fibroblasts.¹² In addition, green tea extract enhances the activity of the enzyme superoxide dismutase, which helps quench excess superoxide radicals and other reactive oxygen species that lead to premature aging. 13 This benefit is naturally important to elderly adults whose skin gradually loses its capacity to produce sufficient quantities of SOD to adequately neutralize free radical attack.

White tea, which is made from the buds and young leaves of the tea plant, is steamed or fired to inactivate the polyphenol oxidase, and then dried. Therefore, because of its minimal oxidation, white tea also retains a very high concentration of polyphenols.¹⁴

The process used in the manufacture of black tea intentionally maximizes the interaction between the catechins and polyphenol oxidase. Because black tea is allowed to completely oxidize before drying, it is generally rich in thearubigins and theaflavins, but relatively low in monomeric catechins such as EGCG that provide greater antioxidant potential.¹⁴

In addition to their potent polyphenol activity, tea extracts also possess vitamin C activity¹⁵ that aids in the formation of new collagen, 16,17 which improves both skin tone and structure. The vitamin C activity of tea also enhances the powerful free radical-fighting capabilities of vitamin E18 and helps promote lighter and brighter skin.¹⁹ The outstanding free radical-quenching ability of topical tea extracts combined with their many other benefits in countering the normal effects of aging make them highly desirable ingredients in any skin care regimen.

Red tea in particular possesses impressive antioxidant capacity.20 Unlike green, black, and white teas, however, that come from the leaves of Camellia sinensis, red tea is not a true tea. Red tea (or rooibos) is made from the oxidized and dried leaves of the Aspalathus linearis plant that only grows in one spot on Earth-the Cederberg Mountain region of South Africa in Western Cape Province. This unique herb has been used by the native Khoisan bushmen as a natural remedy to cure all sorts of ailments ranging from infantile colic to asthma.

Red tea contains many different bioactive polyphenols. Among these are **aspalathin** and **nothofagin**, which belong to a unique class of flavonoids called dihydrochalcones that occur very rarely in plants. In fact, red tea is the only known natural source for aspalathin. Unique in terms of their chemical structure, aspalathin and nothofagin are primarily responsible for red tea's impressive antioxidant power.²⁰ Aspalathin in particular has demonstrated an even



Topical Resveratrol and Other Polyphenols Combat Skin Aging

- The skin's vouthful appearance deteriorates over time due to intrinsic factors such as oxidative stress and extrinsic factors like ultraviolet exposure, smoking, and air pollution.
- Under ideal circumstances, the body uses its own supply of antioxidants to defend itself against the free radicals that affect the skin's appearance. These intrinsic antioxidants can be depleted by chronological aging as well as by UV light exposure.
- Resveratrol's anti-aging power has been well-established in oral supplement form.
- A growing body of evidence shows resveratrol can slow skin aging when applied topically.
- Recent research reveals it has 17 times greater antioxidant activity than idebenone, a powerful pharmaceutical antioxidant used in anti-wrinkle creams.
- Additional polyphenols found in green tea, white tea, and black tea, and the herb Aspalathus linearis extracts, have been shown to combat skin aging via multiple pathways.

greater antioxidant activity than the epigallocatechin gallate (EGCG) in green tea.²¹ Although the free radical-fighting potential of nothofagin is impressive, it's not quite as potent an antioxidant as aspalathin.²¹

Chrysoeriol is another important polyphenol in the rooibos herb. This compound is known for its potent antioxidant capacity, as well as its anti-inflammatory and antimicrobial properties. 22 Chrysoeriol has been shown to be an effective inhibitor of the matrix metal-

Polyphenols: Nature's Answer to the Free Radical Onslaught

An abundance of studies shows that free radicals can wreak havoc on various cellular structures. such as your DNA, proteins, and cellular membranes. Virtually any compound in your body that contains an oxygen molecule, such as hydrogen peroxide, can trigger free radical production. This destructive process happens about 10,000 times every single day, in each of the trillions of cells in your body.27

In your skin, free radical damage ultimately leads to the breakdown of collagen fibers, resulting in fine wrinkles and a loose, sagging appearance.

Under ideal circumstances, your skin uses its own natural supply of enzymatic and non-enzymatic antioxidants to defend itself against free radical attacks.²⁸ It is well known that exposure to UV light depletes naturally occurring antioxidants as, of course, does chronologic aging.^{29,30} Without adequate antioxidant protection, the free radicals generated by your body eventually overwhelm your skin, resulting in premature aging.

Topical application of antioxidants, including polyphenols, has been scientifically shown to provide protection from sun-induced damage, slow down skin aging, reduce inflammation, and ultimately improve skin appearance.31-33

Polyphenols are a dynamic group of approximately 8,000 organic compounds that are widely distributed in the plant kingdom. Polyphenol antioxidants have the ability to neutralize reactive oxygen species such as peroxyl, hydroxyl, and superoxide radicals by donating one of their electrons, thus stabilizing the molecule and breaking the oxidative chain. In addition, some polyphenol antioxidants appear to be capable of affecting cell-to-cell signaling, receptor sensitivity, inflammatory enzyme activity, and gene regulation, which gives them added free radical-quenching ability.34-36

loprotein that damages collagen and elastin and cause premature skin aging.²³

Rutin, also found in red tea,²⁴ has strong antioxidant properties as well.²⁵ Known as **vitamin P1**, rutin has the ability to chelate metal ions such as iron, making it highly effective at limiting the Fenton reaction that produces skin-damaging free radicals.²⁶ Rutin also appears to stabilize and intensify the activity of vitamin C, which is vital to healthy collagen production. These and other antioxidant polyphenols in red tea such as quercetin, luteolin, and orientin make rooibos a uniquely powerful skin care ingredient that fights aging on many levels.24

Summary

While resveratrol's anti-aging power has been firmly established when taken orally, a growing body of evidence shows it can slow skin aging when applied topically. Recent research reveals it has 17 times greater antioxidant activity than idebenone, a powerful pharmaceutical antioxidant used in anti-wrinkle creams. When topically applied, polyphenols from green tea, white tea, and black tea extracts also offer a wealth of benefits for the skin. Red tea from the Aspalathus linearis (rooibos) plant of South Africa offers further topical support for youthful, healthy skin.

If you have any questions on the scientific content of this article, please call a Life Extension® Health Advisor at 1-866-864-3027.

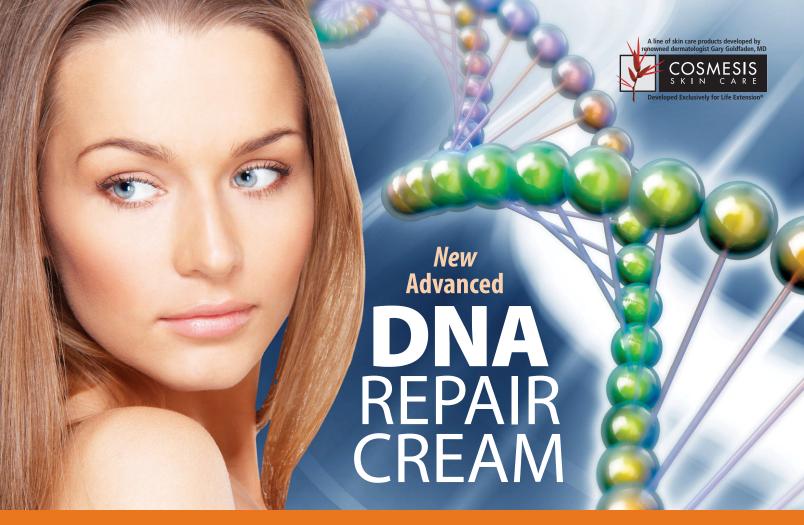




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FOR ULTIMATE SKIN REJUVENATION

Whether you're a man or a woman, the visible effects of aging on your appearance are always the same.

Skin tone eventually loses its luster. The firm, supple look of your younger years begins to fade. Your face and neck become noticeably dry and wrinkled instead of refreshed and vibrant.

Now you can combat these unsightly changes with new **DNA Repair Cream** by **Cosmesis**[®].

An innovation in skin care, this new formula features *teprenone* and *caprylic acid*, two key ingredients that help restore your skin's youthful glow.

Teprenone has a molecular structure similar to **vitamin K**, while caprylic acid occurs naturally in **palm** and **coconut oils**—topical ingredients dermatologists have relied on for years to help men and women *enhance* their skin's appearance.

A Clinically Studied Beautifier

Teprenone is more than just a moisturizer.

It has been shown to improve a host of visible age-related changes most maturing individuals face with the passage of time.

A group of women aged **52-64** applying **teprenone** twice daily experienced a **45%** improvement in skin tone, **56%** improvement in the appearance of spots and blemishes—and visibly more moist-looking skin in all the women tested after just <u>one</u> month.*

Plus ...

The new **DNA Repair Cream** also features *hyaluronic acid*, a compound found in high concentrations in your skin when you're young whose levels inevitably decline over time.

Abundant in olive oil and similar to vitamin A in molecular structure, the moisturizer **squalane** also occurs in



Item # 80141

your skin naturally and gradually diminishes over the years.

The quenching action of *red tea extract* in **DNA Repair Cream** also lends your skin a fresher look.

Together, this novel combination of beautifiers works to replenish youthful skin appearance—and helps you stay young-looking as you grow older.

A 1 oz jar of **DNA Repair Cream** retails for \$49. If a member buys two jars, the price is reduced to only **\$31.50** per jar.

Reference:* Sederma. Data on file. 2007.

To order Cosmesis® DNA Repair Cream call 1-800-544-4440 or visit www.LifeExtension.com



In recent years, scientists have focused intensely on the many benefits of **resveratrol** supplements in supporting healthy life span.

Now cutting-edge dermatologists have uncovered the singular power of *topical* resveratrol to combat the appearance of wrinkles, fine lines, and other unsightly effects of skin aging.

Plants evolved resveratrol to defend against stress, infection, and the harsh, damaging effects of daylong exposure to the sun's destructive **ultraviolet rays**.



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The interaction of oxygen and sunlight generates an enormous volume of free radicals, gradually dehydrating and destroying the surface of plant's skin.

It turns out that human skin is highly receptive to resveratrol's quenching action—especially the outer layer known as the *epidermis*, where the visible effects of aging are most apparent.¹

Resveratrol effectively *neutralizes* intense free radical activity. Scientific analysis has shown that topical resveratrol quenches free radicals at **95%** efficiency, compared to **65%** for vitamin E and **37%** for vitamin C.²

ADDITIONAL POLYPHENOL PROTECTION

Resveratrol is just one of approximately 8,000 plantbased compounds known as *polyphenols*. To complement its beautifying effects on aging skin, a selection of highpotency **tea polyphenols** is included in the new **Resveratrol Antioxidant Serum** formula.

Black, **green**, and **white tea** extracts have been shown to preserve youthful skin tone and luster through their antioxidant activity.³⁻⁵

Also featured is the *Aspalathus linearis* herb found only in a mountainous region of South Africa. Although called "red tea" in the West, it is actually an herb.

It happens to be one of the only sources of aspalathin, a potent antioxidant polyphenol whose distinct molecular structure complements the free radical–neutralizing action of resveratrol and tea polyphenols.⁶

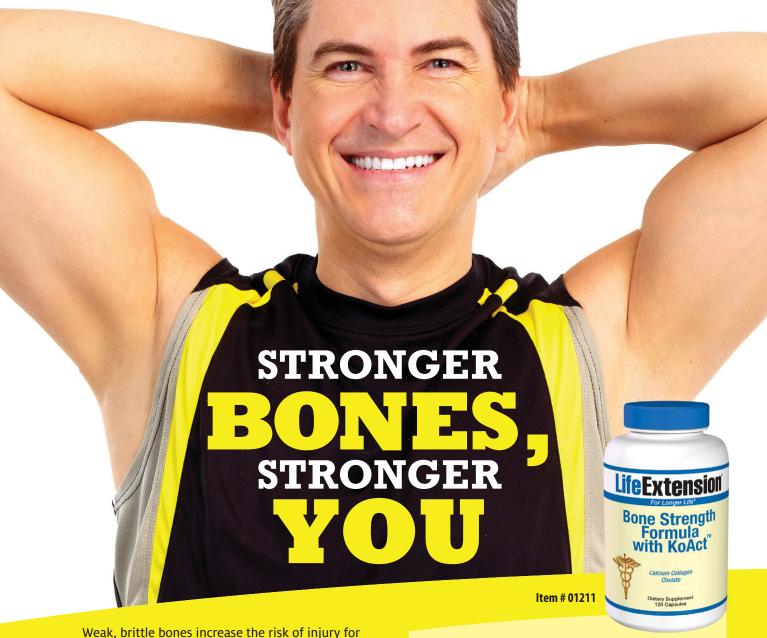
A 1 oz bottle of **Resveratrol Antioxidant Serum** retails for \$46. If a member buys two bottles, the cost is just **\$29.25** each.

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Item # 80142



Weak, brittle bones increase the risk of injury for many aging humans. Bone injuries, such as fractures, splinters, and bruises, can be extraordinarily painful and may result in months of uncomfortable rehab or long-term disability. In order to protect yourself from potentially life-altering problems, Life Extension® has formulated an exciting product made with chelated calcium and collagen called KoAct® to maintain bone strength and mineral density.

KoAct® allows for greater flexibility...so your bones can absorb energy, **reducing the risk of age-related injuries.** Additional plant extracts are included for their bone-protective minerals and polyphenols.

A bottle of **Bone Strength Formula with KoAct**® retails for **\$42**. If a member buys four bottles, the price is reduced to **\$28.50** per bottle.

Contains corn.

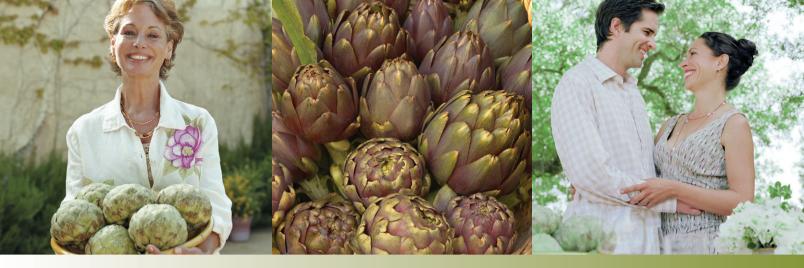
To order Bone Strength Formula with KoAct®, call 1-800-544-4440 or visit www.LifeExtension.com

Four capsules of Bone Strength Formula with KoAct® provide:

Collagen	2,700 mg
(from 3,000 mg KoAct® Calcium Collagen Chelate)	
Calcium	300 mg
(from 3,000 mg KoAct® Calcium Collagen Chelate	
and calcium fructoborate)	
Vitamin D3 (as cholecalciferol)	1,000 IU
Magnesium (as magnesium citrate)	100 mg
Silica [from standardized Bamboo (Bambusa vulgaris) extract (stem)]	5 mg
Dried Plum (Prunus domestica) extract (fruit) [standardized to 50% polyphenols (50 mg)]	100 mg
Boron (calcium fructoborate as patented FruiteX B® OsteoBoron®	3 mg

If you need extra bone support, ask your healthcare professional how Bone Strength Formula with KoAct® can be part of a comprehensive nutritional program in conjunction with proper resistance exercise. Life Extension offers many mineral formulas that may complement Bone Strength Formula with KoAct® to ensure optimal mineral intake.

KoAct[®] is a registered trademark of AIDP, Inc. FruiteX B[®] and OsteoBoron[®] are registered trademarks of VDF FutureCeuticals, Inc., U.S. Patent #5,962,049.



BY CARLEY EDER

The Amazing **ARTICHOKE**

While artichokes may not be the easiest food to consume, the sheer volume of nutrients, minerals, and phytochemicals found in this extraordinary vegetable make eating them well

> worth it. Most people's favorite part of the artichoke is the heart, but the leaves are actually the source of a vast majority of its health benefits. In fact, artichoke leaf extract has proven to be an extremely beneficial food with a host of illness-fighting, age-extending properties.

Artichokes are packed with phytonutrients such as quercetin, rutin, gallic acid, and cynarin, all working to protect against many health risks including cancer, heart disease, liver dysfunction, high cholesterol, and diabetes.1 In 2004, the United States Department of Agriculture conducted its largest, most comprehensive study analyzing the antioxidant content of the most commonly consumed foods. To the surprise of many, artichokes ranked in the top four vegetables and seventh overall. Throughout this article you'll learn about the numerous ways that incorporating artichokes into your diet can benefit your health and well-being.

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The Art of Eating Artichokes

As we mentioned earlier, artichokes have proven that they can be a difficult food to eat. Many people lack the experience in cooking and eating artichokes, so here are a few pointers so you can add this delicious, antioxidantheavy vegetable to your diet.

- Artichokes are available in most markets all year round, with the peak months being March, April, and May.
- Before cooking your artichoke, make sure to cut off the stem, if your artichoke still has it attached. Also you can trim off the very sharp leaf tips and use your fingers to slightly open up the leaves, allowing it to cook more effectively.
- Whether you boil or steam your artichoke, you can tell it's done when the petal near the center pulls out easily.
- Don't worry, the artichoke is one of the only foods where it is both proper and polite to eat with your fingers.
- Artichokes can be served hot or cold. To eat, just pull out the outer petals one at a time. Dip it in your favorite sauce and pull the leaves through your teeth, removing the soft pulpy portion. Discard the remaining portion of the leaf.
- Continue this until all the petals have been removed. Use a spoon and remove the fuzzy center at the base of the artichoke and discard it. What remains is the heart of the artichoke and it is entirely edible. Enjoy!¹¹

History

The globe artichoke, or Cynara scolymus, is the immature flowers of a thistle plant and is known as one of the oldest cultivated vegetables in the world. Most likely, artichokes originated in the Mediterranean, although they have been seen in ancient Egyptian writings as symbols of sacrifice and fertility. The Spanish eventually brought them to California in 1600, but they didn't actually catch on with Americans until the 1920s. California provides nearly 100 percent of the artichoke crop in the United States, with Castroville. a town in the California Central Coast farm country, calling itself the "artichoke center of the world." There are several varieties of artichokes such as Green Globe, Desert Globe, Big Heart, and Imperial Star, ranging in color from dark purple to pale green.3

Benefits

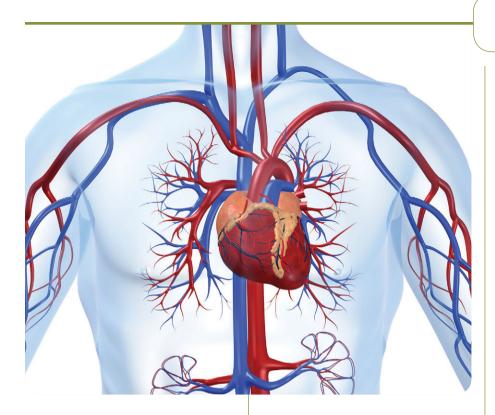
Cholesterol Fighter

High cholesterol is associated with an increased risk for coronary heart disease and atherosclerosis. Artichokes and artichoke leaf extract reduce cholesterol levels. The efforts to study this idea date back all the way to the 1970s, when scientists began examining cynarin and cholesterol in their labs.⁴

In a 12-week, double-blind study, 75 patients received placebo or 1,280 mg standardized artichoke leaf daily. At the end of the 12 weeks, the treated group recorded a modest reduction in total cholesterol of 4.2%.⁵

To further demonstrate the artichoke's heart-healthy powers, scientists set up a randomized, placebo-controlled study to examine the effect of artichoke leaf extract in patients with high cholesterol.





All participants showed positive results. Over 6 weeks, participants were split up, with half receiving artichoke extract and the rest a placebo. The patients receiving artichoke were shown to have an 18.5% reduction in cholesterol level.⁶

Digestive Health

The high concentration of cynarin in artichokes not only affects cholesterol, but also can contribute to aiding in digestive health. Cynarin is known to stimulate the production of bile, which enables us to digest fats and absorb vitamins from our food, making artichokes an excellent way to start any meal.³

Studies have shown that artichoke leaf extract can be very helpful for people suffering from irritable bowel syndrome (IBS) and dyspepsia, or upset stomachs. In a study done at the University of Reading in the United Kingdom, 208 adults who suffered from IBS and dyspepsia were monitored over a two-month period of intervention with artichoke leaf extract.

Results showed a 26.4% reduction in IBS incidence among the participants at the end of the trial. A significant shift of self-reported bowel patterns away from "alternating constipation/diarrhea" toward "normal" was observed as well. Dyspepsia symptoms also decreased by 41% after treatment, and in general, the participants noted a 20% increase in quality of life after treatment.⁷

Liver Function

The boost in bile production you gain from eating artichokes can also be attributed to cynarin. which can be very beneficial to the health of your liver. The bile that your liver produces helps to remove dangerous toxins and digest fats. Artichokes also contain the flavonoid silymarin, a powerful liver protectant. Silymarin averts the process of lipid peroxidation from occurring in the cell membranes of the tissues of the liver, making the artichoke an ideal weapon in vour arsenal to help you obtain optimal liver function.8

Cancer Prevention

There are many other powerful polyphenol-type antioxidants found in artichokes that researchers believe can contribute to the prevention and management of prostate cancer, breast cancer, and leukemia. Studies have shown that the antioxidants rutin, quercetin, and gallic acid found in artichoke leaf extract are able to induce apoptosis (cell death) and reduce the proliferation of cancer cells.¹

In research done at Comenius University in Slovakia, artichoke leaf extract was studied for its ability to inhibit growth of leukemia cells. Over a 24-hour period, leukemia cells were treated with a variety of concentrations of artichoke leaf extract, with results suggesting that it exerts an antiproliferative activity on leukemia cells while inducing apoptosis of these cells as well. In addition,



researchers at the University of Georg-August in Germany have said that the many phytochemicals in artichokes help to block the secretion of cancer agents, thus inhibiting the angiogenesis related to cancer.10

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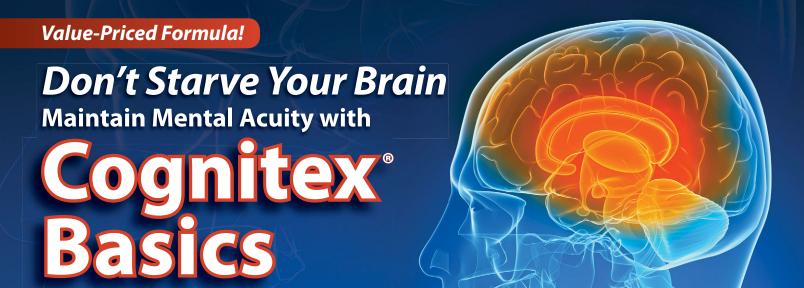
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If you have any questions on the scientific content of this article, please call a Life Extension® Health Advisor at 1-866-864-3027.





Shocking data just released reveal that someone in America develops an agerelated brain deficit **every 69 seconds!**¹



Within 20 years, an astounding **71 million** aging individuals will be at risk for cognitive problems. ¹

Thankfully, new research indicates that some of the factors behind this alarming trend may lie within your control. The key

is to maintain a steady supply of special **nutrients** clinically shown to support brain health as you age.

FOOD FOR THOUGHT

A healthy adult brain has about 100 billion nerve cells. <u>Each</u> cell requires specific dietary support for optimum performance. *Most aging individuals, however, are unwittingly starving their brains of these critical nutrients*.

You may be one of them.

The reason? Healthy dieting. Many of the foods you should rightfully avoid—eggs, red meat, cheese—contain these vital brain-boosting nutrients.

Life Extension® developed the comprehensive Cognitex® formula back in **1982** to provide optimal support for the aging brain.

Cognitex® Basics is a simplified, <u>low-cost</u> formula featuring <u>two</u> important compounds missing from a healthy diet—for maximum cognitive support *and* lifelong mental power. These two nutrients are:

1. ALPHA-GPC: A PRESCRIPTION DRUG IN EUROPE

The neurotransmitter *acetylcholine* is critically involved in memory, cognition, sleep, and motor control. The nutrient **Alpha-GPC** (alpha-glyceryl phosphoryl choline) is an acetylcholine "precursor." Your brain needs it to produce optimal amounts of acetylcholine. Owing to the clinical studies validating its brain-supporting power, **Alpha-GPC** is

sold as an expensive *prescription drug* in Europe. The suggested serving of two softgels of **Cognitex® Basics** supplies **600 mg** of **Alpha-GPC**.

2. AN FDA-SUPPORTED BRAIN HEALTH PROMOTER

Found in human milk, **phosphatidylserine** is essential in helping brain neurons support memory and promoting healthy nerve cell division and repair. Research shows it can benefit people of all ages. So much so that since 2003, the FDA has recognized that phosphatidylserine consumption may reduce the risk of dementia <u>and</u> cognitive dysfunction in the elderly.² The suggested daily serving of **Cognitex**® **Basics** provides **100 mg** of phosphatidylserine.

Age-related cognitive decline is often referred to as a "senior moment", "brain fog", or "drawing a blank." These problems lie in store for anyone who lives long enough. Taking precautionary measures can yield huge neurological health dividends in the future.

A bottle containing 60 softgels of **Cognitex**® **Basics** retails for \$38. If a member buys four bottles, the price is reduced to just **\$26.25** per bottle.



Item # 01421

Two softgels of Cognitex® Basics provide:

Sharp-GPC™ Active Alpha-Glyceryl 600 mg Phosphoryl Choline (A-GPC) Sharp-PS® Phosphatidylserine 100 mg

To order Cognitex® Basics, call 1-800-544-4440 or visit www.LifeExtension.com

References:

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Contains soybeans. Sharp-PS® is a registered trademark and Sharp-GPC™ Active is a trademark of Enzymotec Ltd.
CAUTION: If you are taking anti-coagulant or anti-platelet medications, or have a bleeding disorder, consult your healthcare provider before taking this product.



Assert **Control** over the Calories You Eat!

Would you spend hours at the beach *without* wearing sunglasses and sun protection lotion? The answer should be a resounding no!

Yet most aging individuals do little to protect their bodies against the <u>excess</u> **calories** they ingest each day.

Few of us realize the deadly impact that large meals inflict. For instance, chronic overeating results in our bloodstreams being <u>bloated</u> with **glucose**, **insulin**, and **triglycerides** long <u>after</u> a meal is finished. This occurs not only because we *absorbed* too many calories, but also from the age-associated impairment to our internal regulators of carbohydrate and fat metabolism. This helps explain why, with advancing age, we tend to accumulate unwanted body weight even as we try to cut down on food intake and exercise more.

The good news is that scientists have identified documented methods to <u>reduce</u> the toxic damage from excess calorie intake by taking the proper nutrients <u>before</u> heavy meals.

Comprehensive Calorie Management

The **Calorie Control Weight Management Formula with African Mango Irvingia** is designed to be taken before the <u>two</u> heaviest daily meals to help neutralize the dangers of caloric excess. The ingredients were chosen based on scientific findings that age-associated fat accumulation is at least partially caused by the loss of one's metabolic capacity to utilize ingested calories. Each scoop of this good-tasting powdered drink mix contains:

- **1.** A proprietary fiber called **LuraLean**® that swells in the stomach after ingestion with water to help reduce calorie consumption. LuraLean® binds to **bile acids** in the small intestine and helps transport them out of the body. These bile acids otherwise facilitate the digestion and assimilation of **dietary fat** into the bloodstream. LuraLean® also slows the rapid emptying of ingested food into the small intestine, thereby reducing the surge of **glucose** entering the bloodstream. LuraLean® works better than other fibers because its own enzymes have been removed, thus sparing it from degradation in the digestive tract. This enables LuraLean® to form a stable *viscous barrier* to help impede calorie absorption and maintain its sponge-like activity throughout the digestive tract. In placebo-controlled studies, LuraLean® has induced weight loss along with significant reductions in fasting lipid and post-meal glucose/insulin levels.
- **2.** A white kidney bean extract called **Phaseolus vulgaris** that inhibits the *amylase* enzyme in the digestive tract. *Amylase* breaks down carbohydrates that are then absorbed into the bloodstream as glucose. *Phaseolus vulgaris* has produced weight loss and abdominal fat reductions, along with significant reductions of triglycerides, in placebo-controlled trials.
- **3.** An African plant extract called *African Mango Irvingia gabonensis* that favorably regulates **leptin** to decrease appetite and facilitate triglyceride removal from adipocytes; inhibits **glycerol-3-phosphate dehydrogenase** to reduce fatty acid storage in adipocytes; and up-regulates **adiponectin** to facilitate insulin sensitivity. Irvingia has demonstrated favorable weight loss results in placebo-controlled trials.
- **4.** A proprietary **green tea phytosome** that <u>absorbs</u> much better into the bloodstream to boost *resting metabolic rate*. In a controlled clinical study, this green tea phytosome induced **30.1 pounds** of weight loss on average in 90 days when combined with a reduced calorie diet.

Life-Saving Importance of Taking Calorie Control Weight Management Formula with African Mango Irvingia Before Heavy Meals

Once we accept the danger that each surplus calorie poses to our aging body, it becomes easy to understand the critical need to impede the absorption <u>and</u> effects of ingested foods by taking the **Calorie Control Weight Management Formula with African Mango Irvingia** <u>before</u> the two heaviest meals of the day.

The retail price for a one month (60-serving) supply of **Calorie Control Weight Management Formula with African Mango Irvingia** is \$50. If a member buys four jars, the price is reduced to **\$33.**If eight jars are purchased the member price is slashed to only **\$30** per jar.

Contains soybeans, tree nuts, and corn. LuraLean[®] is a registered trademark of AHD International LLC. This supplement should be taken in conjunction with a healthy diet and regular exercise. Results may vary. CAUTION: Take at least two hours apart from medications. Because this product may lower blood glucose, consult your healthcare provider before taking this product if you are taking blood glucose lowering medication. Taking fiber products without adequate liquid may increase the risk of choking. Consult your healthcare provider before taking this product if you have difficulty swallowing or esophageal narrowing.

To order the Calorie Control Weight Management Formula with African Mango Irvingia, call 1-800-544-4440 or visit www.LifeExtension.com/calorie-control

Artichoke Leaf Extract

Artichoke Leaf Extract is made from the long, serrated basal leaves of the plant, which contain the highest concentration of biologically active compounds.

These compounds have displayed the ability to maintain healthy digestion and liver function.

Chlorogenic acid and cynarin are two of the active compounds found in this extract. Chlorogenic acid positively affects glucose levels in the body in those already within normal range and may support healthy body weight. The compound cynarin, which is found almost exclusively in artichokes, may support digestion and maintain cholesterol levels already within a healthy range.

Those who may benefit from these natural compounds may want to add **Artichoke Leaf Extract** to their supplement regimen. Some people will take one capsule with meals that contain fat to facilitate digestion.

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ARTICHOKE LEAF

• The retail price for a bottle of 180 vegetarian capsules of Life Extension®'s Artichoke Leaf Extract is \$28. If a member buys four bottles, the price is reduced to \$19.04 per bottle.





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Blood testing provides the ultimate information regarding correctable risk factors that may predispose you to disorders such as cancer, diabetes, cardiovascular disease, and more. Information about general health and nutritional status can also be gained through standard blood analysis. Standing behind the belief that blood testing is an essential component of any program designed to attain optimal health and longevity, *Life Extension*® offers this innovative and convenient service at a very affordable price. Not only is comprehensive blood testing an important step in safeguarding your health, it is a simple process from virtually anywhere in the United States.

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- 1. Call 1-800-208-3444 to discuss and place your order with one of our knowledgeable health advisors. (This order form can also be faxed to 1-866-728-1050 or mailed). Online orders can also be placed at www.lifeextension.com.
- 2. After your order is placed, you will be mailed either a requisition form to take to your local LabCorp Patient Service Center or a Blood Draw Kit; whichever is applicable (Please note: If a blood draw kit is used, an additional local draw fee may be incurred.)
- 3. Have your blood drawn.
- 4. Your blood test results will be mailed directly to you by Life Extension.
- 5. Take the opportunity to discuss the results with one of our knowledgeable health advisors by calling 1-800-226-2370; or review the results with your personal physician.

It's that simple! Don't delay—call today!

For Our Local Members:

For those residing in the Ft. Lauderdale, Florida area, blood-draws are also performed at the Life Extension Nutrition Center from 9:00 am to 2:00 pm Monday through Saturday. Simply purchase the blood test and have it drawn with no wait! Our address is 5990 North Federal Highway, Ft. Lauderdale, FL, 33308-2633.

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Estradiol Total Testosterone	5011/	LDL Cholesterol Glucose	
Free T3 TSH		Triglycerides Iron	
C-Reactive Protein Free T4		LIVER FUNCTION PANEL	
(high sensitivity) SHBG FEMALE WEIGHT LOSS PANEL (LCWLF)*	\$299	AST (SGOT) Total Bilirubin ALT (SGPT) Alkaline Phosphatase	
CBC/Chemistry Profile DHEA-S	\$200	LDH	
Progesterone Insulin		KIDNEY FUNCTION PANEL	
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Estradiol TSH		Creatinine Uric Acid BLOOD PROTEIN LEVELS	
Free T3 Free T4 C-Reactive Protein SHBG		Total Protein Globulin	
(high sensitivity)		Albumin Albumin/Globulin Ratio	
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Homocysteine TSH for thyroid function	n	Red Blood Cell Count Monocytes	
Free Testosterone Total Testosterone Estradiol SHBG		White Blood Cell Count Lymphocytes Eosinophils Platelet Count	
PSA (prostate-specific antigen)		Basophils Hemoglobin	
C-Reactive Protein (high-sensitivity)		Polys (Absolute) Hematocrit	
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a man's hormone status, Life Extension has		RDW	
created this panel as an addition to the Male		BLOOD MINERAL PANEL	
Life Extension Panel. This panel provides		Calcium Sodium	
valuable information about a testosterone metabolite that can affect the prostate, and		Potassium Chloride Phosphorus Iron	
the mother hormone that acts as a precursor		'	
to all other hormones.		NOTE: CBC/Chemistry profile is included in the Male and Female Life Extension panels and Weight Loss Pa	anels.
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CBC/Chemistry Profile DHEA-S		HEMOGLOBIN A1C (HBA1C) (LC001453)	\$31
Estradiol Homocysteine		Hemoglobin A1C evaluates long-term blood	0
Progesterone TSH for thyroid function Free Testosterone Total Testosterone)[]	sugar control. Serum glucose sometimes react with important proteins in the body rendering	5
C-Reactive Protein SHBG		them nonfunctional. Since this process, known	
(high sensitivity)		as glycation is one of the leading theories of	
) FEMALE HORMONE ADD-ON PANEL (LCADDF)*	\$125	aging, Life Extension® believes everyone should check their A1C level.	
Pregnenolone and Total Estrogens		Silvulu Cileck tileli ATO level.	
To provide an even more in-depth analysis of a woman's hormone status, Life Extension		VITAMIN D (250H) (LC081950)	\$47
has created this panel as an addition to the		This test is used to rule out vitamin D	
Female Life Extension Panel. This panel		deficiency as a cause of bone disease. It can also be used to identify hypercalcemia.	
provides valuable information about total		it can also be used to identify hypercalcenna.	
estrogen status, and the mother hormone that acts as a precursor to all other hormones.	L	FOOD SAFE ALLERGY TEST (LCM73001)	\$174
acts as a precursor to an other normoles.		This test measures delayed (IgG) food	
LIFE EXTENSION THYROID PANEL (LC304131)	\$75	allergies for 95 common foods.	
TSH, T4, Free T3, Free T4.		CYTOKINE PANEL (LCCYT)*	\$399
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MALE HORMONE RE-TEST PROFILE (LCRTM)* CBC/Chemistry Profile, DHEA-S, Dihydro-	\$210	Cytokines are proteins that modulate the	
testosterone (DHT), Estradiol, PSA, Pregnenok	ne,	inflammatory response. This panel is used to identify elevated levels of specific cytokines.	
Total and Free Testosterone, and TSH. Continu	al		
monitoring of hormone levels is necessary for		OMEGA SCORE™** (LCOMEGA)	131.25
seeking to maintain optimal blood level value	S.	Provides valuable information on your risk	
FEMALE HORMONE RE-TEST PROFILE (LCRTF)*		of developing heart disease, sudden heart attack, and cardiac death. The Omega	
CBC/Chemistry Profile, DHEA-S, Total Estroger	1,	Score™ also includes your AA:EPA ratio,	
Pregnenolone, Total and Free Testosterone, Progesterone, and TSH. Continual monitoring		allowing you to determine and track a major	
of hormone levels is necessary for women		factor in total body inflammation.	
seeking to maintain optimal blood level value	S.	COQ10* (COENZYME Q10) (LC120251)	\$145
•		This tast is used to shook the blood level	7

This test requires samples to be shipped to the lab on dry ice for customers using a Blood Draw Kit and will incur an additional \$35 charge. If the customer is having blood drawn at a LabCorp facility, this extra charge does not apply.

This test is used to check the blood level of CoQ10 and will enable more precise dosing for anyone seeking to achieve and maintain high levels of this critical antioxidant.

This test is packaged as a kit, requiring a finger stick performed at home.



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\bigcirc	TOTAL AND FREE TESTOSTERONE (LC140103) Determines whether testosterone replacement should be considered as a therapy for depressio abdominal obesity, low energy, poor mental performance, or loss of libido.	\$99 n,
	Blood tests available only in the continental United States.	

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CARDIAC RISK Lp-PLA2 (PLAC TEST)* (LC123240) This test is used to aid in predicting risk for coronary heart disease, and ischemic stroke associated with atherosclerosis. Lp-PLA2 is a cardiovascular risk factor that provides unique information about the stability of the plaque inside your arteries.	\$125
C-REACTIVE PROTEIN (HIGH-SENSITIVITY) (LC120766) Measures inflammation factors in arteries. Recent studies indicate that C-reactive protein may be the most accurate risk factor for predicti heart attack and stroke.	\$42 ng
APOLIPOPROTEIN ASSESSMENT (APO A1 + APO B + RATIO) (LC216010) This ratio correlates with risk of coronary artery disease and is useful in the presence of borderline elevations of cholesterol.	\$55
FIBRINOGEN* (LC001610) High levels of this blood-clotting factor increase the risk of heart attack and stroke.	\$31
HOMOCYSTEINE (LC706994) Can indicate if you are likely to have a heart attac or stroke. Even if you take folic acid, you still may have dangerously high levels of this artery-clottin metabolic debris that can be lowered with high doses of TMG and vitamin B6.	
VAPTM TEST (LC804500) The VAP cholesterol test provides a more comprehensive coronary heart disease (CHD) risi assessment than the conventional lipid profile. Direct measurements, not estimations, are provided for total cholesterol, LDL, HDL, VLDL, and cholesterol subclasses.	\$90 k
MALE HEALTH PSA (PROSTATE-SPECIFIC ANTIGEN) (LC010322) Can provide an early warning sign for prostate disorders and possible cancer.	\$31
FREE-PSA (INCLUDES TOTAL PSA)* (LC480780) Recommended to determine if an elevated PSA is indicative of prostate cancer.	\$61
BONE HEALTH OSTEOCALCIN* (LC010249)	\$91

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risk of developing metabolic bone diseases. Deoxypyridinoline can be used to monitor therapies (which may include bisphosphonate drugs) in people diagnosed with osteoporosis.

Osteocalcin is often used as a biochemical marker, or biomarker, for the bone formation process. It has been routinely observed that higher serum osteocalcin levels are relatively well correlated with bone diseases characterized by increased bone turnover, especially osteoporosis.

DPD CROSS LINK URINE TEST (LC511105)

The deoxypyridinoline (DPD) urine test can be used to measure bone re-absorption rates in healthy individuals and in those with enhanced

This is NOT a complete listing of LE blood test services. Call 1-800-208-3444 for additional information.

ORDER LIFE-SAVING BLOOD TESTS FROM VIRTUALLY **ANYWHERE IN THE US!**

TERMS AND CONDITIONS

This blood test service is for informational purposes only and no specific medical advice will be provided. National Diagnostics, Inc., and the Life Extension Foundation contract with a physician who will order your test(s), but will not diagnose or treat you. Both the physician and the testing laboratory are independent contractors and neither National Diagnostics, Inc., nor the Life Extension Foundation® will be liable for their acts or omissions. Always seek the advice of a trained health professional for medical advice, diagnosis, or treatment. When you purchase a blood test from Life Extension/National Diagnostics, Inc., you are doing so with the understanding that you are privately paying for these tests. There will be absolutely no billing to Medicare, Medicaid, or private insurance. I have read the above Terms and Conditions and understand and agree to them.

Signature of Life Extension Member

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Life Extension Foundation Members only

			N	

Expiration Date

\$79

MEMBER NO.			
Male		○ Female	;
Name			
Date of Birth (required)	/	/	
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City			
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5990 North Federal Highway, Ft. Lauderdale, FL 33308-2633

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Products

AMINO ACIDS

Acetyl-L-Carnitine Acetyl-L-Carnitine-Arginate
Branched Chain Amino Acids
D, L-Phenylalanine Capsules

GABA Powder
Glycine Capsules
Glycine Powder

Arginine Capsules

L-Arginine Free Base Powder Arginine/L-Ornithine Capsules

L-Carnitine Capsules L-Glutathione, L-Cysteine & C L-Glutamine Capsules

L-Glutamine Powder

L-Lysine Capsules L-Lysine Powder L-Tyrosine Tablets

L-Tyrosine Tablets
Mega L-Glutathione Capsules
N-Acetyl-L-Cysteine Capsules
Optimized Carnitine with GlycoCarn®

PharmaGABA

Super Carnosine Capsules

Taurine Capsules

Tryptopure® Tryptophan (Optimized) Tryptopure® Plus

BONE & JOINT HEALTH

ArthroMax™ with Theaflavins Bone-Up™

Bone Restore™

Bone Strength Formula w/KoAct™ Chondroitin Sulfate

Chondrox

Fast Acting Joint Formula

Glucosamine Chondroitin Capsules

BRAIN HEALTH

Acetyl-L-Carnitine
Acetyl-L-Carnitine-Arginate
CDP Choline Capsules

Cognitex® with NeuroProtection Complex Cognitex® with Pregnenolone &

NeuroProtection Complex

Cognitex® Basics

DMAE

Ginkgo Biloba Certified Extract™

Huperzine A

Lecithin with B5 and BHA

Lecithin Granules
Methylcobalamin Lozenges

Optimized Ashwagandha Extract Phosphatidylserine Capsules

Rhodiola Extract

Super Ginkgo Extract

Vinpocetine

DIGESTIVE

Bromelain Powder

Carnosoothe w/PicroProtect

Daily Ginger® Digest RC™

Enhanced Super Digestive Enzymes (also available with Probiotics)

Florastor

Intact Digest

Life Flora™ Natural EsophaGuard

N-Zimes™

Pancreatin

Primal Defense™

Probiotic All-Flora®

Probiotic Anti-Aging

Probiotic Cleanse Probiotic Colon™

Regimint

Saccharomyces Boulardii+mos

Theralac Probiotics

DURK AND SANDY PRODUCTS

Blast™

Dual-C

Inner Power™

Memory Upgrade™

EYE CARE

Bilberry Extract

Blackcurrant Freeze Dried Extract

Brite Eves III

Eye Pressure Support with Mirtogenol®

Overxcast Polarized Sunglasses

Solarshield Sunglasses
Super Zeaxanthin with Lutein &

Meso-Zeaxanthin and C3G
(Plus Astaxanthin also available)

Vision Optimizer

FIBER
Apple Pectin Powder

Fiber Food

Hi-Lignan® Nutri-Flax®
WellBetX PGX® Soluble Fiber Blend

Asian Cruciferous Vegetable Soup Cruciferous Vegetable Soup

Dr. Proctor's Advanced Hair Formula

Dr. Proctor's Shampoo

Life Extension Shampoo and Conditioner

Super-Absorbable Tocotrienols

HEART HEAITH

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D-Ribose Powder

Endothelial Defense™ with

Full-Spectrum Pomegranate™

Fibrinogen Resist

Forskolin

Garlicforce™

Homocysteine Resist

Krill Healthy Joint Formula
Natural BP Management
Peak ATP® with GlycoCarn®

Policosanol

Red Yeast Rice

Super Absorbable CoQ10™ with *d*-Limonene Super Omega-3 EPA/DHA with Sesame

Lignans & Olive Fruit Extract

Super Ubiquinol CoQ10

Super Ubiquinol CoQ10 with Enhanced Mitochondrial™ Support

Sytrinol™

Theaflavin Standardized Extract

TMG Powder TMG Tablets

HERBAL/PHYTO PRODUCTS

Artichoke Leaf Extract

Astaxanthin

Berry Complete

Blueberry Extract

Blueberry Extract w/Pomegranate Butterbur Extract w/Standardized

Rosmarinic Acid

Calcium D-Glucarate

Cilantro Herbal Extract
Citrus Bioflavonoid

Enhanced Berry Complete with RZD™ Acai Floradix® Iron & Herbs

Floravital® Iron & Herbs

Full-Spectrum Pomegranate™ Grapeseed Extract with Resveratrol &

Pterostilbene Huperzine A with Natural Vitamin E

Kyolic® Garlic Formula 105 Kyolic® Reserve

Mega Green Tea Extract Mega Green Tea Extract (Decaffeinated)

Mega Lycopene Extract Nutrim

Optimized Ashwagandha Extract

Optimized Garlic

Pomegranate Extract Pomegranate Juice Concentrate

ProGreens[®] Pure-Gar[™]

Pycnogenol

Optimized Quercetin Resveratrol with Synergistic Grape-Berry Actives

Rhodiola Extract

Rosmarinic Acid Extract Silymarin

SODzyme™ with GliSODin® Stevia Extract

Super Bio-Curcumin® Super Ginkgo Extract Enhanced Life Extension Whey Protein

Aloe Vera Force™

Echinacea

i26 Hyperimmune Egg Immune Protect with PARACTIN®

IMMUNE ENHANCEMENT

Buffered Vitamin C Powder

Venotone

DHEA

Melatonin

Pure IGF

Pregnenolone

ProFem Cream

HORMONES 7-Keto® DHEA

DHEA Complete

Melatonin Timed Release

Whole Grape Extract

Lactoferrin Lifeshield[®] Immunity[™] Maitake SX-Fraction

Norwegian Shark Liver Oil

Optimized Fucoidan w/Maritech® 926

Triple Action Cruciferous Vegetable Extract

GH Pituitary Support Day Formula
GH Pituitary Support Night Formula

Natural Estrogen with Pomegranate Extract

Super Miraforte with Standarized Lignans

Agave Digestive-Immune Support AHCC® (Active Hexose Correlated Compound)

Primal Defense ProBoost™ Thymic Protein A

Pure Gar™

Sambu® Guard Supercritical Oreganoforce™

Thymic Immune Factors

Ultimate Flora Advanced Immunity

Vitamin C with Dihydroquercetin Zinc Lozenges with Vitamin C

INFLAMMATORY REACTIONS

Arthro-Immune Joint Support ArthroMax™ with Theaflavins

Barlean's Kids DHA

Boswella

Boswella™ Topical Cream

Bromelain (Specially-coated) Coromega Kids Brain and Body (DHA)

DHA 240

Emulsified Norwegian Cod Liver Oil Emulsified Super Twin EPA/DHA

Fast Acting Joint Formula

Ginger Force

Krill Oil 5-LOXIN®

Mega EPA/DHA

Mega GLA with Sesame Lignans MSM

Natural Relief 1222™ Cream Omega-3 Chewables

Serraflazyme SODzyme™ with GliSODin® and Wolfberry Super Omega-3 EPA/DHA with Sesame

Lignans & Olive Fruit Extract

Tart Cherry Udo's Choice Oil

Zyflamend Easy

LIVER HEALTH

Branch Chain Amino Acids N-Acetyl Cysteine

Liver Force Certified European Milk Thistle PhosChol® (Nutrasal)

SAMe Silymarin

MINERALS Biosil

Bone Restore

Bone Strength Formula w/KoAct®

Bone-Up™ Boron Capsules

Calcium Citrate with D3 Chromium Ultra

Copper Dr. Strum's Intensive Bone Formula

Iodoral

Products

Iron Protein Plus Magnesium Magnesium Citrate Mineral Formula for Men Mineral Formula for Women Only Trace Minerals Optimized Chromium w/Crominex® 3+ OptiZinc Sea-Iodine™ Selenium Se-Methyl L-Selenocysteine Strontium

Zinc/Vitamin C Lozenges

MISCELLANEOUS

Vanadyl Sulfate

Blender Blood Pressure Monitor Arm Cuff Medium Cell Sensor Gauss Meter™ CR Way Edition Advanced Dietary Software Empty Gelatin Capsules LifeShield® Breathe™ The Capsule Filler Machine The Pill Cutter and Grinder

MITOCHONDRIAL SUPPORT

Acetyl-L-Carnitine Acetyl-L-Carnitine-Arginate Mitochondrial Basics w/BioPQQ™ Mitochondrial Energy Optimizer w/BioPQQ™ Optimized Carnitine with GlycoCarn®
Super Absorbable CoQ10™ with d-Limonene Super Alpha Lipoic Acid with Biotin Super R-Lipoic Acid Super N-Lipoic Acid
Super Ubiquinol CoQ10 with Enhanced
Mitochondrial™ Support MOOD RELIEF Bioactive Milk Peptides

Holy Basil LifeShield® Cordyceps L-Theanine 5 HTP Enhanced Natural Sleep® w/ Melatonin Enhanced Natural Sleep® w/o Melatonin Natural Stress Relief Optimized TryptoPure™ Plus Stabilium® 200 SAMe St. John's Wort Extract Tryptopure™ L-Tryptophan

MOUTH CARE
Advanced Oral Hygiene
Dr. Tung's Tongue Cleaner
Mist Oral III™ with CoQ10
Mouthwash w/Pomegranate Toothpaste

MULTIVITAMIN

Children's Formula Life Extension Mix Comprehensive Nutrient Pack Life Extension Booster

Life Extension Mix™ Capsules

Life Extension Mix™ Toblets

Life Extension Mix™ Toblets

Life Extension Mix™ w/o Copper Capsules

Life Extension Mix™ w/o Copper Tablets

Life Extension Mix™ w/Extra Niacin

Life Extension Mix™ w/Extra Niacin w/o Copper

Life Extension Mix™ w/Stevia Powder

Life Extension Mix™ w/Stevia Powder

Life Extension Mix™ w/Stevia w/o Copper Powder

Life Extension Oper Par Day Life Extension Booster Life Extension One-Per-Day Life Extension Two-Per-Day Super Booster Softgels w/Advanced K2 Complex Vital Greens Mix

PET CARE

Cat Mix Dog Mix

PROSTATE & URINARY HEALTH BetterWOMAN® Optimized Cran-Max® with UTIRose™ 5-LOXIN® (Water-Soluble) Pumpkin Seed Extract Super Saw Palmetto with Beta-Sitosterol Super Saw Palmetto/Nettle Root Formula w/Beta-Sitosterol Ultra Natural Prostate Formula

SKIN CARE

Advanced Under Eye Serum with Stem Cells Amber Self MicroDermabrasion Anti-Aging Mask Anti-Glycation Serum Antioxidant Rejuvenating Foot Cream Antioxidant Rejuvenating Foot Scrub Antioxidant Rejuvenating Hand Cream Antioxidant Rejuvenating Hand Scrub

Anti-Redness & Blemish Lotion Cellulite Suppress™ Formula Corrective Clearing Mask

DermaWhey
DNA Repair Cream

Dual-Action MicroDerm Abraision Elastin Collagen Body Firming Lotion Essential Plant Lipids Reparative Serum Face Master® Platinum

Face Rejuvenating Antioxidant Cream Enhanced FernBlock® with Sendara™

Fine Line-Less Hair Suppress Formula

Healing Formula All-in-One Cream

Healing Mask

Hyaluronic Facial Moisturizer Hydrating Anti-oxidant Face Mist

Hydroderm® Lavilin Underarm Deodorant

Lifting & Tightening Complex LifeShield® Reishi Melatonin Cream Mild Facial Cleanser

NaPCA w/Aloe Vera Neck Rejuvenating Antioxidant Cream New Face Solution

Peel Off Cleansing Mask Pigment Correcting Cream (Ultra) Rejuvenex® Rejuvenex® Body Lotion RejuveneX® Factor

Rejuvenating Serum

Resveratrol Anti-Oxidant Serum

Skin Lightening Serum
Skin Restoring Ceramides w/Lipowheat™
Skin Stem Cell Serum
Supercritical Omega 7™

Sun Protection Spray Total Sun Protection Cream

Total Sun Protection Cream
Ultra Rejuvenex®
Ultra RejuveNight® w/ Progesterone
Ultra RejuveNight® w/o Progesterone
Ultra Lip Plumper
Ultra Wrinkle Relaxer
Under Eye Refining Serum
Under Eye Rescue Cream
Vitamin C Serum
Vitamin D Lotion Vitamin D Lotion Vitamin K Healing Cream

Natural Estrogen w/Pomegranate Soy Protein Concentrate Super Absorbable Soy Isoflavones Ultra Soy Extract

SPECIAL PURPOSE FORMULA

Anti-Alcohol Antioxidants w/HepatoProtection Complex

Benfotiamine w/Thiamine Breast Health Formula

Butterbur Extract w/Standardized

Rosmarinic Acid Chlorella

Chlorophyllin w/Zinc Cleanse Smart

Coriolus Super Strength CR Mimetic Longevity Formula

Derma-Vits™ Cinsulin® w/InSea^{2™}

and Crominex® 3+

European Leg Solution Diosmin 95 Fem Dophilus

Femmenessence MacaPause® Flush & Be Fit

GlucoFit™

Ideal Bowel Support 299 Maitake SX-Fraction™

Menopause Solutions Migra-eeze™ Natural Female Support

Organic Total Body Cleanse Pecta-Sol®

Potassium Iodide PQQ Caps with BioPQQ™

PteroPure™ Prelox® Natural Sex for Men®

Pyridoxal 5' - Phosphate Rosmarinic Acid Extract

SPORTS PERFORMANCE

Creatine Capsules Creatine Powder Enhanced Life Extension Protein DMG (N, N-dimethylglycine) Inosine L-Glutamine Capsules L-Glutamine Powder

VITAMINS

Ascorbic Acid Powder Ascorbyl Palmitate Capsules

B2 B12

Beta-Carotene Biotin Capsules Biotin Powder

Buffered Vitamin C Powder Complete B Complex Essential Fat-Soluble Nutrient

Folic Acid + B12

Gamma E Tocopherol w/Sesame Lignans Gamma E Tocopherol/Tocotrienols

Inositol Capsules Inositol Powder

Mega Lycopene Extract Methylcobalamin MK-7 No-Flush Niacin Optimized Folate

PABA Capsules Super Ascorbate C Capsules Super Ascorbate C Powder

Super K w/Advanced K2 Complex Supercritical Omega 7[™]
Tocotrienols w/Sesame Lignans

Vitamin A Nutrisorb
Vitamin B3 (Niacin) Capsules

Vitamin B6 Vitamin B12 Tablets

Vitamin C

Vitamin D Vitamin D3

Vitamin D3 w/Sea-lodine™ Vitamins D and K w/Sea-lodine™

Vitamin E

Vitamin K1

WEIGHT MANAGEMENT

Alli® Refill Pack

Advanced Anti-Adipocyte Formula w/AdipoStat & Integra Lean® Anti-Adipocyte Formula w/AdipoStat

Calorie Control Weight Management Formula 7-Keto DHEA

DHEA Complete Fucoxanthin Slim™

Integra-Lean® Irvingia LuraLean® Caps Special Propolmannan Particle Size

Optimized Irvingia w/Phase 3™ Calorie Control Complex
Optimized Saffron with Satiereal®

Natural Appetite Control

Natural Glucose Absorption Control Stevia Liquid Extract

Super CLA Blend w/Guarana and Sesame Lignans

Super CLA Blend w/Sesame Lignans Udo's Choice Wholesome Fast Food Blend WellBetX PGX® Soluble Fiber Blend

Buyers Club Order Form To order call: 1.954.766.8433 or 1.800.544.4440

No.		Retail Each	Member Each	Qty	Tota
	A				
00449	ACETYL-L-CARNITINE - 500 mg, 100 caps	\$56.00	\$42.00		
	Buy 4 bottles, price each	46.66	35.00		
00788	ACETYL-L-CARNITINE ARGINATE - 100 caps	59.00	44.25		
	Buy 4 bottles, price each	50.99	38.24		
01308	ADVANCED LIPID CONTROL - 60 veg. caps	30.00	22.50		
	Buy 4 bottles, price each	27.00	20.25		
01300	ADVANCED ORAL HYGIENE - 60 veg. mint lozenges	20.00	15.00		
	Buy 4 bottles, price each	18.00	13.50		
00681	AHCC - 500 mg, 30 caps	59.98	44.99		
	Buy 4 bottles, price each	53.33	40.00		
46925	ALLI® REFILL PACK - 120 caps	69.95	58.00		
01375	ALOE VERA FORCE™ - 60 veg. caps	31.95	23.96		
00457	ALPHA-LIPOIC ACID W/BIOTIN (SUPER) - 250 mg, 60 caps	37.00	27.75		
	Buy 4 bottles, price each	32.00	24.00		
01440	ANTI-ALCOHOL ANTIOXIDANTS w/HEPATOPRO - 100 caps	26.00	19.50		
	Buy 4 bottles, price each	23.00	17.25		
01510	ANTI-ADIPOCYTE FORMULA w/ADIPOSTAT - 60 veg. caps	35.00	26.25		
	Buy 4 bottles, price each	32.00	24.00		
01509	ANTI-ADIPOCYTE FORMULA w/ADIPOSTAT & INTEGRA LEAN® (ADVANCED)	39.00	29.25		
0.000	60 veg. caps • Buy 4 bottles, price each	36.00	27.00		
00105	APPLE PECTIN POWDER - 227 grams	14.75	11.06		
00100	Buy 4 bottles, price each	13.75	10.31		
01012	ARGININE CAPS - 800 mg, 200 caps	26.50	19.88		
01012	Buy 4 bottles, price each	23.25	17.44		
01039	ARGININE/ORNITHINE - 500/250, 100 caps	16.00	12.00		
01005	Buy 4 bottles, price each	14.50	10.88		
00038	ARGININE/ORNITHINE POWDER - 150 grams	22.95	17.21		
00000	Buy 4 bottles, price each	19.00	14.25		
01025	(L)-ARGININE FREE-FORM POWDER - 100 grams	15.98	11.99		
01025	•	14.31	10.73		
01217	Buy 4 bottles, price each				
01317	ARTHROMAX™ w/THEAFLAVINS - 120 veg. caps Buy 4 bottles, price each	44.00	33.00		
01.40.4		40.00 32.00	30.00		
01404	ARTHRO-IMMUNE JOINT SUPPORT - 60 veg. caps		24.00		
00010	Buy 4 bottles, price each	28.00	21.00		
00919	ARTICHOKE LEAF EXTRACT - 500 mg, 180 veg. caps	28.00	21.00		
00000	Buy 4 bottles, price each	25.38	19.04		
08000	ASCORBIC ACID POWDER - 454 grams	38.00	28.50		
00000	Buy 4 bottles, price each	34.93	26.20		
00082	ASCORBYL PALMITATE - 500 mg, 100 caps	22.50	16.88		
0000-	Buy 4 bottles, price each	20.00	15.00		
88800	ASHWAGANDHA EXTRACT (OPTIMIZED) - 60 veg. caps	10.00	7.50		
	Buy 4 bottles, price each	9.00	6.75		
01066	ASPIRIN - 81 mg, 300 enteric coated tablets	6.00	4.50		
	Buy 4 bottles, price each	5.33	4.00		
00708	ASTAXANTHIN - 2 mg, 30 softgels	10.25	7.69		

No.		Retail Each	Member Each	Qty	Tota
	В				
0920	BENFOTIAMINE W/ THIAMINE - 100 mg, 120 veg. caps	\$19.95	\$14.96		
	Buy 4 bottles, price each	18.60	13.95		
0925	BENFOTIAMINE (MEGA)- 250 mg, 120 veg. caps	30.00	22.50		
	Buy 4 bottles, price each	27.00	20.25		
1206	BERRY COMPLETE - 30 veg. caps	21.00	15.75		
	Buy 4 bottles, price each	18.67	14.00		
1406	BERRY COMPLETE w/RZD™ ACAI (ENHANCED) - 60 veg. caps	29.00	21.75		
	Buy 4 bottles, price each	26.00	19.50		
0664	BETA-CAROTENE - 25,000 IU, 100 softgels	10.98	8.24		
10004	Buy 4 bottles, price each	9.83	7.37		
0653	BETTERWOMAN® -40 caps	40.00	30.00	_	
10033	Buy 4 bottles, price each	38.00	28.50		
1073		28.00	21.00	_	
11073	BILBERRY EXTRACT - 100 mg, 100 veg. caps				
1510	Buy 4 bottles, price each	25.00	18.75 13.50	_	
11512	BIOACTIVE MILK PEPTIDES - 30 caps	18.00			
4000	Buy 4 bottles, price each	16.00	12.00	_	
1006	BIOSIL™ - 5 mg, 30 veg. caps	18.95	15.16	_	
1007	BIOSIL™ - 1 fl oz	29.99	23.99		
0102	BIOTIN - 600 mcg, 100 caps	7.50	5.63		
	Buy 4 bottles, price each	6.50	4.88		
00145	BIOTIN POWDER - 30 grams	12.50	9.38		
	Buy 4 bottles, price each	11.00	8.25		
01008	BLAST™ - 600 grams of powder	26.95	20.21		
1526	BLENDER - 28 oz bottle	8.99	6.74		
'0000	BLOOD PRESSURE MONITOR-ARM CUFF (medium)	99.95	64.97		
'0001	BLOOD PRESSURE MONITOR-WRIST (travel size)	69.95	45.47		
)1214	BLUEBERRY EXTRACT - 60 veg. caps	22.50	16.88		
	Buy 4 bottles, price each	20.00	15.00		
01438	BLUEBERRY EXTRACT w/ POMEGRANATE - 60 veg. caps	30.00	22.50		
	Buy 4 bottles, price each	27.00	20.25		
01506	BONE FORMULA (DR. STRUM'S INTENSIVE) - 300 veg. caps	56.00	42.00		
	Buy 4 bottles, price each	50.00	37.50		
00811	BONE RESTORE - 150 caps	22.50	16.88		
	Buy 4 bottles, price each	19.50	14.63		
)1211	BONE STRENGTH FORMULA w/KOACT® - 120 caps	42.00	31.50		
	Buy 4 bottles, price each	38.00	28.50		
00313	BONE-UP® - 240 caps	24.95	18.71		
	Buy 4 bottles, price each	22.50	16.88		
01379	BOOSTER - 60 softgels	48.00	36.00		
	Buy 4 bottles, price each	44.00	33.00		
01590	BOOSTER W/ADVANCED K2 COMPLEX (SUPER) - 60 softgels	42.00	31.50		
71000	Buy 4 bottles, price each	38.00	28.50		
00621	BORON - 3 mg, 100 caps	5.95	4.46		
10021	Buy 4 bottles, price each	5.25	3.94		
00202	BOSWELLA - 100 caps	38.00	28.50	_	
00202					
10250	Buy 4 bottles, price each	30.00	22.50	\vdash	
10258	BOSWELLA TOPICAL CREAM - 4 0Z Buy 4 jars, price each	15.00 13.00	11.25 9.75		
	SUB-TOTAL OF COLUMN 2				

To order online visit: www.LifeExtension.com

Buyers Club Order Form

No.		Retail Each	Member Each	Qty	Total
01253	BRANCHED CHAIN AMINO ACIDS - 90 veg. caps	\$19.50	\$14.63		
	Buy 4 bottles, price each	17.00	12.75		
00999	BREAST HEALTH FORMULA - 60 veg. caps	34.00	25.50		
	Buy 4 bottles, price each	30.00	22.50		
00893	BRITE EYES III - 2 vials, 5 ml each	34.00	25.50		
	Buy 4 boxes, price each	32.00	24.00		
00136	BROMELAIN POWDER - 100 grams	21.00	15.75		
00.00	Buy 4 bottles, price each	18.75	14.06		
01203	BROMELAIN (SPECIALLY-COATED) - 500 mg, 60 enteric coated tablets	21.00	15.75		
01200	Buy 4 bottles, price each	19.00	14.25		
00004	7 11		_		
00884	BUTTERBUR EXT. w/STANDARDIZED ROSMARINIC ACID - 60 softgels	44.00	33.00		
	Buy 4 bottles, price each	39.60	29.70		
	С				
01015	CALCIUM CITRATE w/VITAMIN D - 300 caps	\$24.00	\$18.00		
	Buy 4 bottles, price each	21.25	15.94		
00535	CALCIUM D-GLUCARATE - 200 mg, 60 caps	18.00	13.50		
	Buy 4 bottles, price each	15.00	11.25		
01493	CALORIE CONTROL WEIGHT MANAGEMENT FORMULA BLUEBERRY-POMEGRANATE FLAVOR - 402 grams powder	50.00	37.50		
	Buy 4 jars, price each	44.00	33.00		
	Buy 8 jars, price each	40.00	30.00		
00118	CAPSULE FILLER MACHINE FOR "00" CAPSULES	17.95	13.46		
	Buy 4 machines, price each	17.25	12.94		
00613	CAPSULE FILLER MACHINE FOR "0" CAPSULES	17.95	13.46		
000.0	Buy 4 machines, price each	17.25	12.94		
00916	CARNITINE w/GLYCOCARN® (OPTIMIZED) - 60 veg. caps	29.00	21.75		
00010	Buy 4 bottles, price each	26.10	19.58		
01041	L-CARNITINE - 500 mg, 30 caps	15.00	11.25		
01041	Buy 4 bottles, price each	13.20	9.90		
01258	CARNOSOOTHE w/PICROPROTECT™ - 60 veg. caps	29.95	22.46		
01230			20.25		
04.007	Buy 4 bottles, price each	27.00			
01287	CARNOSINE (SUPER) - 500 mg, 90 caps	66.00	49.50		
04.000	Buy 4 bottles, price each	60.00	45.00		
01003	CAT MIX - 100 grams powder	15.00	11.25		
00000	Buy 4 bottles, price each	12.00	9.00		
00390	CDP CHOLINE CAPS - 250 mg, 60 caps	36.00	27.00		
	Buy 4 bottles, price each	34.00	25.50	_	
00998	CELL SENSOR-EMF DETECTION METER	39.95	29.95		
01370	CHILDREN'S FORMULA LIFE EXTENSION MIX™ - 100 chewable tablets	18.00	13.50		
	Buy 4 bottles, price each	16.00	12.00		
00550	CHLORELLA - 500 mg, 200 tablets	23.50	17.63		
	Buy 4 bottles, price each	21.00	15.75		
01549	CHLOROPHYLLIN w/ZINC - 100 veg. caps	24.00	18.00		
	Buy 4 bottles, price each	20.00	15.00		
*01359	CHO-LESS™ - 90 capsules	32.50	24.38		
00541	CHOLINE CHLORIDE - 16 oz liquid	14.95	11.21		
	Buy 4 bottles, price each	14.00	10.50		
00364	CHONDROITIN SULFATE CONCENTRATE - 400 mg, 60 tablets	19.95	14.96		
	Buy 4 bottles, price each	18.00	13.50		
01218	CHROMIUM ULTRA - 100 veg. caps	24.00	18.00		
	Buy 4 bottles, price each	21.00	15.75		
01504	CHROMIUM W/CROMINEX® 3+ (OPTIMIZED) - 500 mcg, 60 veg. caps	9.00	6.75		
	Buy 4 bottles, price each	8.00	6.00		
00551	CILANTRO HERBAL EXTRACT - 1 OZ	12.00	9.00		
	Buy 4 bottles, price each	11.00	8.25		
	SUB-TOTAL OF COLUMN 3				

No.		Retail Each	Member Each	Qty	Total
01503	CINSULIN® w/INSEA2™ AND CROMINEX® 3+-90 veg. caps	\$38.00	\$28.50		
	Buy 4 bottles, price each	34.00	25.50		
00069	CITRUS BIOFLAVONOID - 100 caps	16.79	12.59		
	Buy 4 bottles, price each	15.56	11.67		
0818	CLA BLEND W/SESAME LIGNANS (SUPER) - 1000 mg, 120 softgels	36.00	27.00		
	Buy 4 bottles, price each	33.00	24.75		
	Buy 10 bottles, price each	26.33	19.75		
0819	CLA BLEND w/GUARANA & SESAME (SUPER)-1000 mg, 120 softgels	42.00	31.50		
	Buy 4 bottles, price each	38.33	28.75		
1078	CLEANSE SMART - 60 caps	31.99	23.99		Т
0050	COD LIVER OIL (EMULSIFIED) - 12 fl oz (355 ml)	10.97	8.23		Г
	Buy 4 bottles, price each	10.34	7.76		
0293	COD LIVER OIL (EMULSIFIED) - 100 softgels (Emulsified)	10.97	8.23		
	Buy 4 bottles, price each	10.34	7.76		
0922	COGNITEX® w/PREGNENOLONE &	74.00	55.50		Г
	NEUROPROTECTION COMPLEX - 90 softgels				
	Buy 4 bottles, price each	66.60	49.95		
	Buy 12 bottles, price each	64.00	48.00		
10921	COGNITEX® w/o PREGNENOLONE	72.00	54.00		
	w/NEUROPROTECTION COMPLEX - 90 softgels	C4.00	40.00		
	Buy 4 bottles, price each	64.00	48.00		
	Buy 12 bottles, price each	62.00	46.50	_	H
)1421	COGNITEX® BASICS - 60 softgels	38.00	28.50		
	Buy 4 bottles, price each	35.00	26.25		
	Buy 12 bottles, price each	32.00	24.00		
0110	COMPLETE B-COMPLEX - 180 caps	21.50	16.13		
	Buy 4 bottles, price each	18.00	13.50		
)1575	COMPREHENSIVE NUTRIENT PACK - 30-day supply	189.00	141.75		Г
	Buy 4 bottles, price each	171.00	128.25		
00119	COPPER CAPSULES - 2 mg, 100 caps	9.91	7.43		Г
	Buy 4 bottles, price each	8.96	6.72		
00949	COQ10™ w/ d-LIMONENE (SUPER ABSORBABLE) - 50 mg, 60 softgels	25.00	18.75		Н
	Buy 4 bottles, price each	22.00	16.50		
	Buy 12 bottles, price each	20.00	15.00		
00950	7 71	66.00	49.50		\vdash
JU93U	COQ10™ w/ d-LIMONENE (SUPER ABSORBABLE) - 100 mg, 100 softgels				
	Buy 4 bottles, price each	60.00	45.00		
	Buy 12 bottles, price each	56.00	42.00		_
)1226	COQ10 (SUPER UBIQUINOL) - 100 mg, 60 softgels	56.00	42.00		
	Buy 4 bottles, price each	52.00	39.00		
	Buy 12 bottles, price each	48.00	36.00		
1426	COQ10 W/ENH MITOCHONDRIAL SUPPORT™ (SUPER UBIQUINOL)-100 mg, 60 softgels	62.00	46.50		
	Buy 4 bottles, price each	56.00	42.00		
	Buy 12 bottles, price each	52.00	39.00		
1425	COQ10 w/ENH MITOCHONDRIAL SUPPORT™ (SUPER UBIQUINOL)-50 mg, 100 softgels	58.00	43.50		
	Buy 4 bottles, price each	53.00	39.75		
	Buy 10 bottles, price each	50.00	37.50		
)1427	COQ10 w/ENH MITOCHONDRIAL SUPPORT™ (SUPER UBIQUINOL)-50 mg, 30 softgels	20.00	15.00		Н
,, ,_,	Buy 4 bottles, price each	18.00	13.50		
1431				_	\vdash
11431	COQ10 w/ENH MITOCHONDRIAL SUPPORT™ (SUPER UBIQUINOL)-200 mg, 30 softgels	62.00	46.50		
	Buy 4 bottles, price each	56.00	42.00		
	Buy 10 bottles, price each	52.00	39.00	_	\vdash
01053	CORIOLUS SUPER STRENGTH - 600 mg, 150 veg. caps	99.95	74.96		<u> </u>
0857	COROMEGA CHILD BRAIN & BODY - (Lemon Lime) 30 packets	25.00	18.75		
	Buy 4 boxes, price each	22.50	16.75		
					ı

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No.		Retail Each	Member Each	Qty	Tota
	C CONTINUED				
80140	COSMESIS ADVANCED UNDER EYE SERUM w/STEM CELLS - 33 oz	\$49.00	\$36.75		
	Buy 2 bottles, price each	42.00	31.50		
30139	COSMESIS AMBER SELF MICRODERMABRASION - 2 OZ	49.00	36.75		
	Buy 2 jars, price each	42.00	31.50		
30118	COSMESIS ANTI-AGING MASK - 2 oz	72.00			
30110	Buy 2 bottles, price each	63.36			
30134	COSMESIS ANTI-GLYCATION SERUM - 1 0Z	33.00	24.75		
30101	W/BLUEBERRY & POMEGRANATE EXTRACTS	00.00	21.70		
	Buy 2 bottles, price each	31.35	23.51		
30133	COSMESIS ANTIOXIDANT FACIAL MIST - 2 OZ	32.00	24.00	_	
00133		30.40	22.80		
00107	Buy 2 bottles, price each	+		_	
30127	COSMESIS ANTIOXIDANT REJUVENATING FOOT CREAM - 2 oz	45.00			
	Buy 2 jars, price each	42.80	32.10	_	
30128	COSMESIS ANTIOXIDANT REJUVENATING FOOT SCRUB - 2 0Z	59.00			
	Buy 2 jars, price each	51.92		_	
30117	COSMESIS ANTIOXIDANT REJUVENATING HAND CREAM - 2 OZ	64.00			
	Buy 2 jars, price each	57.49			
10121	COSMESIS ANTIOXIDANT REJUVENATING HAND SCRUB - 2 0Z	58.00	43.50		
	Buy 2 jars, price each	51.04	38.28		
30105	COSMESIS ANTI-REDNESS & BLEMISH LOTION - 1 OZ	74.50	55.88		
	Buy 2 bottles, price each	65.56	49.17		
30120	COSMESIS CORRECTIVE CLEARING MASK - 2 OZ	64.50	48.38		
	Buy 2 jars, price each	56.76	42.57		
30141	COSMESIS DNA REPAIR CREAM - 1 oz jar	49.00	36.75		
	Buy 2 jars, price each	42.00	31.50		
0108	COSMESIS ESSENTIAL PLANT LIPIDS REPARATIVE SERUM - 1 0Z	74.95	56.21		
	Buy 2 bottles, price each	65.95			
30123	COSMESIS FACE REJUVENATING ANTIOXIDANT CREAM - 2 oz	69.50			
00120	Buy 2 jars, price each	61.16			
30107		74.50		_	
00107		-			
0404	Buy 2 bottles, price each	65.56		_	
30131	COSMESIS HAIR SUPPRESS FORMULA - 4 0Z	59.00			
	Buy 2 bottles, price each	51.92		_	
30137	COSMESIS HEALING FORMULA ALL-IN-ONE CREAM - 1 0Z	53.00	39.75		
	Buy 2 jars, price each	45.43	34.07		
30115	COSMESIS HEALING MASK - 2 OZ	64.50	48.38		
	Buy 2 bottles, price each	56.76	42.57		
30109	COSMESIS HYALURONIC FACIAL MOISTURIZER - 1 0Z	58.00	43.50		
	Buy 2 bottles, price each	51.04	38.28		
30110	COSMESIS HYALURONIC OIL-FREE FACIAL MOISTURIZER - 1 OZ	58.00	43.50		
	Buy 2 bottles, price each	51.04	38.28		
30138	COSMESIS HYDRATING ANTI-OXIDANT FACE MIST - 4 OZ	39.95	29.96		
	Buy 2 bottles, price each	38.00	28.50		
30103	COSMESIS LIFTING & TIGHTENING COMPLEX - 1 OZ	74.50	55.88		
	Buy 2 bottles, price each	65.56	49.17		
0135	COSMESIS MELATONIN CREAM - 1 0Z	33.00	24.75		
,0100	Buy 2 jars, price each	27.10	20.33		
80114	COSMESIS MILD FACIAL CLEANSER - 8 0Z	59.00	44.25		
0114		-			
01100	Buy 2 bottles, price each	51.92	38.94	\vdash	
80122	COSMESIS NECK REJUVENATING ANTIOXIDANT CREAM - 2 OZ	64.00	48.00		
	Buy 2 jars, price each	56.32	42.24	_	
30111	COSMESIS PIGMENT CORRECTING CREAM - 1/2 oz	74.00	55.50		
	Buy 2 bottles, price each	65.12	48.84		
30106	COSMESIS REJUVENATING SERUM - 1 0Z	74.50	55.88		
	Buy 2 bottles, price each	65.56	49.17		
	SUB-TOTAL OF COLUMN 5			_	

No.		Retail Each	Member Each	Qty	Total
80142	COSMESIS RESVERATROL ANTI-OXIDANT SERUM - 1 OZ	\$46.00	\$34.50		
	Buy 2 bottles, price each	39.00	29.25		
80112	COSMESIS SKIN LIGHTENING SERUM - 1/2 0Z	85.00	63.75		
	Buy 2 bottles, price each	74.80	56.10		
80130	COSMESIS SKIN STEM CELL SERUM - 1 0Z	74.00	55.50		
	Buy 2 bottles, price each	69.00	51.75		
80116	COSMESIS ULTRA LIP PLUMPER - 1/3 oz	64.00	48.00		
	Buy 2 bottles, price each	56.32	42.24		
80101	COSMESIS ULTRA WRINKLE RELAXER - 1 0Z	89.95	67.46		
	Buy 2 bottles, price each	79.76	59.82		
80113	COSMESIS UNDER EYE REFINING SERUM - 1/2 oz	74.50	55.88		
	Buy 2 bottles, price each	65.56	49.17		
80104	COSMESIS UNDER EYE RESCUE CREAM - 1/2 oz	74.50	55.88		
	Buy 2 bottles, price each	65.56	49.17		
80129	COSMESIS VITAMIN C SERUM - 1 OZ	85.00	63.75		
	Buy 2 bottles, price each	74.80	56.10		
80136	COSMESIS VITAMIN D LOTION - 4 OZ	36.00	27.00		
	Buy 2 bottles, price each	33.66	25.25		
80102	COSMESIS VITAMIN K HEALING CREAM - 1 OZ	79.50	59.63		
	Buy 2 bottles, price each	69.96	52.47		
00862	CRAN-MAX® - 500 mg, 60 veg. caps	17.50	13.13		
	Buy 4 bottles, price each	15.00	11.25		
01424	CRAN-MAX® with UTIROSE™ (OPTIMIZED) - 60 veg. caps	18.00	13.50		
	Buy 4 bottles, price each	16.00	12.00		
00609	CREATINE CAPSULES - 120 caps	10.95	8.21		
	Buy 4 bottles, price each	9.25	6.94		
00610	CREATINE POWDER - 500 grams	29.00	21.75		
00010	Buy 4 bottles, price each	26.63	19.97		
01096	CREATINE WHEY GLUTAMINE POWDER - 1000 grams (vanilla)	45.00	33.75		
01030	Buy 4 bottles, price each	42.00	31.50		
^N1N89	CRUCIFEROUS VEGETABLE SOUP - 32 oz. pouch	11.95	8.96		
01003	Buy 6 pouches, price each	11.25	8.44		
^01000	(ASIAN) CRUCIFEROUS VEGETABLE SOUP - 32 oz. pouch	11.95	8.96		
01030	Buy 6 pouches, price each	11.25	8.44		
01429		39.00	29.25		
J1429	CR MIMETIC LONGEVITY FORMULA - 60 veg. caps		27.00		
*ODIA/A\/	Buy 4 bottles, price each	36.00			
	CR WAY OPTIMAL HEALTH PROGRAM SOFTWARE	195.00	195.00		
00407	CURCUMIN® (SUPER BIO) - 400 mg, 60 veg. caps	38.00	28.50		
	Buy 4 bottles, price each	35.00	26.25		
01276		¢21.0E	¢16.46		
01376	DAILY GINGER® - 90 veg. caps	\$21.95	\$16.46	\vdash	
01063	DERMA-VITS™ - 90 caps	14.99	11.24	\vdash	
01313	DERMAWHEY- 400 mg, 60 caps	65.00	48.75		
00050	Buy 4 bottles, price each	59.00	44.25	H	
00856	DHA (BARLEAN'S KID'S) 8 fl. oz (Fruit Punch)	22.00	16.50		
00005	Buy 4 bottles, price each	20.00	15.00	\vdash	
00995	DHA 240 - 240 mg, 60 softgels	19.00	14.25		
20050	Buy 4 bottles, price each	17.00	12.75	H	
00658	7-KETO® DHEA METABOLITE - 25 mg, 100 caps	28.00	21.00		
0.1.67	Buy 4 bottles, price each	24.00	18.00	H	
01271	7-KETO® DHEA METABOLITE - 100 mg, 60 veg. caps	40.00	30.00		
	Buy 4 bottles, price each	36.00	27.00		
00607	DHEA - 25 mg, 100 tablets (dissolve in mouth)	14.00	10.50		
	Buy 4 bottles, price each	11.75	8.81		
	SUB-TOTAL OF COLUMN 6				

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No.		Retail Each	Member Each	Qty	Total
01250	DHEA COMPLETE - 60 veg. caps	\$48.00	\$36.00		
	Buy 4 bottles, price each	43.20	32.40		
00335	DHEA - 25 mg, 100 caps	15.00	11.25		
	Buy 4 bottles, price each	12.50	9.38		
00454	DHEA - 15 mg, 100 caps	12.00	9.00		
	Buy 4 bottles, price each	10.00	7.50		
00882	DHEA - 50 mg, 60 caps	16.00	12.00		
	Buy 4 bottles, price each	14.00	10.50		
00883	DHEA - 100 mg, 60 caps	22.50	16.88		
	Buy 4 bottles, price each	19.00	14.25		
01358	DIGEST RC - 30 tablets	19.95	14.96		
	Buy 4 boxes, price each	17.00	12.75		
01272	DIGESTIVE ENZYMES (ENHANCED SUPER)- 100 veg. caps	18.95	14.21		
UILIL	Buy 4 bottles, price each	16.00	12.00		
01273	DIGESTIVE ENZYMES w/PROBIOTICS (ENHANCED SUPER) - 100 veg. caps	24.00	18.00		
01213		22.00			
00034	Buy 4 bottles, price each				
JUU34	D,L-PHENYLALANINE CAPSULES - 500 mg, 100 caps	18.75	14.06		
	Buy 4 bottles, price each	16.00	12.00	_	
00257	DMAE BITARTRATE - 150 mg, 200 caps	14.00	10.50		
	Buy 4 bottles, price each	10.50	7.88		_
00059	DMG - 125 mg, 60 tablets	18.50	13.88		
	Buy 4 boxes, price each	17.00	12.75		
01547	DNA PROTECTION FORMULA - 60 veg. caps	30.00	22.50		
	Buy 4 bottles, price each	28.00	21.00		
00544	DOG MIX - 100 grams powder	19.50	14.63		
	Buy 4 bottles, price each	16.00	12.00		
00321	DR. PROCTOR'S ADVANCED HAIR FORMULA - 2 OZ	39.95	29.96		
	Buy 4 bottles, price each	32.00	24.00		
00320	DR. PROCTOR'S HAIR FORMULA SHAMPOO - 8 OZ	24.95	18.71		
	Buy 4 bottles, price each	22.00	16.50		
00376	DR. TUNG'S TONGUE CLEANER	8.45	6.34		
000.0	Buy 4 bottles, price each	8.05	6.04		
00899	DUAL-ACTION MICRODERMABRASION ADV. EXFOLIATE - 2.4 OZ	39.95	29.96		
00000	Buy 4 jars, price each	38.95	29.21		
00240	DUAL-C - 90 caps	12.00	9.00	\vdash	
00240	Buy 4 bottles, price each	10.50	7.88		
	E	10.00	7.00	_	_
00388	ECHINACEA EXTRACT - 250 mg, 60 caps	\$14.35	\$10.76	_	_
00000			,		
01004	Buy 4 bottles, price each	12.50	9.38	\vdash	\vdash
01024	EDTA - 500 mg, 100 caps	17.50		\vdash	
01321	ELASTIN & COLLAGEN BODY FIRMING LOTION - 8 fl. 0z.	10.00	_	\vdash	
00048	EMULSIFIED SUPER TWIN EPA/DHA - 12 fl. oz.	23.57	17.68	\vdash	\vdash
01498	ENDOTHELIAL DEFENSE™ w/FULL-SPECTRUM POMEGRANATE™ - 60 softgels	56.00	42.00		
	Buy 4 bottles, price each	52.00	39.00	<u> </u>	_
00997	ENDOTHELIAL DEFENSE™ w/GLISODIN® - 60 veg. caps	52.00			
	Buy 4 bottles, price each	46.00		—	<u> </u>
00625	EPA/DHA (MEGA) - 120 softgels	19.95			
	Buy 4 bottles, price each	18.00	13.50	<u> </u>	<u> </u>
01428	ESSENTIAL FAT-SOLUBLE NUTRIENTS - 30 softgels	28.00	21.00		
	Buy 4 bottles, price each	25.00	18.75		
*01042	EUROPEAN LEG SOLUTION DIOSMIN 95 - 600 mg, 30 veg. tabs	20.00	15.00		
	Buy 4 bottles, price each	18.00	13.50		
01514	EYE PRESSURE SUPPORT w/MIRTOGENOL® - 30 veg. caps	38.00	28.50		
	Buy 4 bottles, price each	34.00	25.50		
	SUB-TOTAL OF COLUMN 7				

lo.		Retail Each	Member Each	Qty	Tota
	F				
101054	FACE MASTER® PLATINUM	\$199.00	\$199.00		
0965	FAST-ACTING JOINT FORMULA - 30 caps	39.00	29.25		
	Buy 4 bottles, price each	36.00	27.00		
0053	FEM DOPHILUS® - 30 caps	25.95	19.46		
0055	FEM DOPHILUS® - 60 caps	39.95	29.96		
1064	FEMMENESSENCE MACAPAUSE® - 120 veg. caps	34.99	26.24		
1311	FERNBLOCK® w/SENDARA™ (ENHANCED) - 30 veg. caps	39.00	29.25		
	Buy 4 bottles, price each	35.00	26.25		
0229	FIBER FOOD CAPS - 200 caps	15.00	11.25		
	Buy 4 bottles, price each	12.50	9.38		
	Buy 10 bottles, price each	11.90	8.93		
0718	FIBRINOGEN RESIST™ - 30 veg. caps	49.00	36.75		
31 10	Buy 4 bottles, price each	44.00	33.00		
2072		_		_	H
0873	FLAXSEED POWDER (HI-LIGNAN® NUTRI-FLAX®) - 16 oz powder	9.95	7.46	_	
1384	FLORADIX® IRON & HERBS - 17 fl. oz	43.49	32.62	_	
1200	FLORASTOR® - 250 mg, 50 caps	55.15	41.36	_	L
1382	FLORAVITAL® IRON & HERBS - 17 fl. oz	43.49	32.62	_	
1212	FLUSH + BE FIT - 2- week cleanse for women	29.99	22.49		_
1439	FOLATE (OPTIMIZED) (L-METHYLFOLATE) 1000 mcg - 100 veg. caps	28.00	21.00		
	Buy 4 bottles, price each	25.00	18.75		
0347	FOLIC ACID + B12 CAPSULES - 200 caps	10.50	7.88		
	Buy 4 bottles, price each	9.50	7.13		
0300	FORSKOLIN - 10 mg, 60 caps	15.00	11.25		
	Buy 4 bottles, price each	12.50	9.38		
1513	FUCOIDAN w/MARITECH® 926 (OPTIMIZED) - 60 veg. caps	36.00	27.00		
	Buy 4 bottles, price each	33.00	24.75		
00993	FUCOXANTHIN-SLIM™ - 90 softgels	44.00	33.00		
	Buy 4 bottles, price each	39.00	29.25		
	G	00.00	20.20		
0127	GABA POWDER - 100 grams	\$23.75	\$17.81		
0121	Buy 4 bottles, price each	22.50	16.88		
0559	GAMMA E TOCOPHEROL/TOCOTRIENOLS - 60 softgels	42.00	31.50		
3000	Buy 4 bottles, price each	37.00	27.75		
0759	GAMMA E TOCOPHEROL W/SESAME LIGNANS - 60 softgels	32.00	24.00		
3133	Buy 4 bottles, price each	29.00	21.75		
1394	(OPTIMIZED) GARLIC - 200 veg. caps	24.95	18.71		
1004	Buy 4 bottles, price each	21.00	15.75		
1378	GARLIC FORCE™ - 30 softgels	31.95	23.96		
0117	GELATIN CAPSULES - 1000 empty caps size "00"	19.00	14.25		
0111	Buy 4 bags, price each	18.00	13.50		
1301	GH PITUITARY SUPPORT DAY FORMULA - 120 vegetarian tabs	48.00	36.00	\vdash	
1001	Buy 4 bottles, price each	44.00	33.00		
1302	GH PITUITARY SUPPORT NIGHT FORMULA - 120 veg. caps	25.00	18.75		
1002	Buy 4 bottles, price each	22.50	16.88		
1228	GINGER FORCE - 60 softgels	29.95	22.46		
0778	GINKGO BILOBA CERTIFIED EXTRACT™ - 120 mg, 365 caps	46.00	34.50		
3110	Buy 2 bottles, price each	43.50	32.63		
	GINKGO EXTRACT (SUPER)- 120 mg, 100 caps	29.00	21.75		
1504	Buy 4 bottles, price each	26.50	19.88		
0504	Day - Dullios, prior tatif	29.99	22.49	\vdash	
	(DANAY RED) CINCENC - 60 year cane		44.49		
1032	(PANAX RED) GINSENG - 60 veg. caps				
1032	GLA WITH SESAME LIGNANS (MEGA) - 60 softgels	19.50	14.63		
1032)756	GLA WITH SESAME LIGNANS (MEGA) - 60 softgels Buy 4 bottles, price each	19.50 18.00	14.63 13.50		
1032 0756	GLA WITH SESAME LIGNANS (MEGA) - 60 softgels Buy 4 bottles, price each (L) GLUTAMINE CAPSULES - 500 mg, 100 caps	19.50 18.00 14.95	14.63 13.50 11.21		
1032 0756 0345	GLA WITH SESAME LIGNANS (MEGA) - 60 softgels Buy 4 bottles, price each (L) GLUTAMINE CAPSULES - 500 mg, 100 caps Buy 4 bottles, price each	19.50 18.00 14.95 13.50	14.63 13.50 11.21 10.13		
0504 1032 0756 0345	GLA WITH SESAME LIGNANS (MEGA) - 60 softgels Buy 4 bottles, price each (L) GLUTAMINE CAPSULES - 500 mg, 100 caps	19.50 18.00 14.95	14.63 13.50 11.21		

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No.		Retail Each	Member Each	Qty	Tota
	G CONTINUED				
00522	GLUCOSAMINE/CHONDROITIN CAPSULES - 100 caps	\$38.00	\$28.50		
	Buy 4 bottles, price each	32.00	24.00		
00512	GLUCOFIT™ - 100 softgels	28.00	21.00		
	Buy 4 bottles, price each	25.00	18.75		
00113	GLUTATHIONE, CYSTEINE & C - 750 mg, 100 caps	18.00	13.50		
	Buy 4 bottles, price each	16.00	12.00		
00314	L-GLUTATHIONE (MEGA) - 250 mg, 60 caps	39.64	27.03		
	Buy 4 bottles, price each	35.68	26.76		
00795	GLYCINE - 1000 mg, 100 caps	12.00	9.00		
	Buy 4 bottles, price each	10.80	8.10		
00128	GLYCINE POWDER - 300 grams	18.00	13.50		
	Buy 4 bottles, price each	16.00	12.00		
01091	GRAPE EXTRACT w/RESVERATROL (WHOLE) - 60 veg. caps	36.00	27.00		
71031	Buy 4 bottles, price each	34.00	25.50		
01411		36.00	27.00		
71411	GRAPE SEED EXTRACT w/RESVERATROL & PTEROSTILBENE-100 mg, 60 veg. caps		25.50		
20052	Buy 4 bottles, price each	34.00			
00953	GREEN TEA EXTRACT (MEGA) - lightly caffeinated - 100 veg. caps	28.00	21.00		
20054	Buy 4 bottles, price each	26.50	19.88		
00954	GREEN TEA EXTRACT (MEGA) - decaffeinated - 100 veg. caps	28.00	21.00		
	Buy 4 bottles, price each	26.50	19.88		_
	Н				
01074	5 HTP - 100 mg, 60 caps	\$27.95	\$20.96		
00010	HAIR CONDITIONER - 16 oz	6.00	4.50		
	Buy 4 bottles, price each	4.50	3.38		
00230	HCA - 90 caps	18.00	13.50		
	Buy 4 bottles, price each	15.50	11.63		
01433	HOLY BASIL - 60 softgel caps	31.95	23.96		
01434	HOLY BASIL - 120 softgel caps	51.95	38.96		
01435	HOMOCYSTEINE RESIST - 100 caps	24.00	18.00		
	Buy 4 bottles, price each	21.60	16.20		
00067	HOODIA GORDONII - 60 caps	14.00	10.50		
00627	HUPERZINE A W/NATURAL VITAMIN E - 50 mcg, 60 caps	27.95	20.96		
	Buy 4 bottles, price each	24.00	18.00		
00661	HYDRODERM® - 1 oz	79.95	59.96		
	Buy 2 bottles, price each	65.33	49.00		
01060	i26 HYPERIMMUNE EGG - 140 grams powder	\$49.99	\$42.00		
01319	• •	31.99	25.59		
01318	· · · · · · · · · · · · · · · · · · ·	31.99	25.59		
01065	IDEAL BOWEL SUPPORT 299V - 30 veg. caps	21.95	16.46		
00955	IMMUNE PROTECT W/PARACTIN® - 30 veg. caps	29.50	22.13		
00300	Buy 4 bottles, price each	26.55	19.91		
01040	· · · · · · · · · · · · · · · · · · ·				
01049	INNERPOWER™ - 555 grams powder	42.00	31.50		
00155	INOSINE - 500 mg, 60 caps	22.95	17.21		
00440	Buy 4 bottles, price each	21.00	15.75		
00410	INOSITOL CAPSULES - 1000 mg, 360 caps	48.00	36.00		
2012-	Buy 4 bottles, price each	43.75	32.81		
00108	INOSITOL POWDER - 100 grams	18.00	13.50		
	Buy 4 bottles, price each	16.88	12.66		
01021	INTACT DIGEST™ - 8 fl oz	35.00	26.25		
	Buy 4 bottles, price each	33.00	24.75		
01292	INTEGRA-LEAN® IRVINGIA - 150 mg, 60 veg. caps	28.00	21.00		
	Buy 4 bottles, price each	24.00	18.00		
	SUB-TOTAL OF COLUMN 9				

No.		Retail Each	Member Each	Qty	Total
01002	IODORAL® - 180 tabs	\$50.00	\$37.50		
00563	IRON PROTEIN PLUS - 300 mg, 100 caps	24.00	18.00		
	Buy 4 bottles, price each	22.00	16.50		
01492	IRVINGIA W/PHASE 3™ - 120 veg. caps Calorie Control Complex (0PTIMIZED)	56.00	42.00		
	Buy 4 bottles, price each	48.00	36.00		
	J, K				
00056	JARRO-DOPHILUS EPS™ - 60 veg. caps	\$21.95	\$16.46		
01224	K w/ADVANCED K2 COMPLEX (SUPER) - 90 softgels	26.00	19.50		
	Buy 4 bottles, price each	23.00	17.25		
01600	KRILL HEALTHY JOINT FORMULA - 30 softgels	32.00	24.00		
	Buy 4 bottles, price each	29.00	21.75		
01050	(NKO) KRILL OIL - 60 softgels	33.95	25.46		
00316	KYOLIC® GARLIC FORMULA 102 - 200 caps	23.95	17.96		
	Buy 4 bottles, price each	20.50	15.38		
00214	KYOLIC® GARLIC FORMULA 105 - 200 caps	22.95	17.21		\vdash
JUL 14	· · · · · · · · · · · · · · · · · · ·				
00700	Buy 4 bottles, price each	18.25	13.69		
00789	KYOLIC® RESERVE - 600 mg, 120 caps	24.75	18.56		
	Buy 4 bottles, price each	21.45	16.09		L
	L				
00513	LACTOFERRIN (APOLACTOFERRIN) CAPS - 60 caps	\$40.00	\$30.00		
	Buy 4 bottles, price each	36.00	27.00		
00017	LAVILIN UNDERARM DEODORANT - 12.5 grams cream	15.00	11.25		
	Buy 4 jars, price each	13.75	10.31		
00020	LECITHIN - 16 oz. granules	15.00	11.25		
	Buy 4 jars, price each	12.50	9.38		
01555	LIFE EXTENSION MIX™ - 315 tablets	98.00	73.50		
	Buy 4 bottles, price each	86.00	64.50		
	Buy 10 bottles, price each	69.50	52.13		
01557	LIFE EXTENSION MIX™ W/EXTRA NIACIN - 315 tablets	98.00	73.50		
	Buy 4 bottles, price each	86.00	64.50		
	Buy 10 bottles, price each	69.50	52.13		
01554	LIFE EXTENSION MIX™ - 490 caps	110.00	82.50		
	Buy 4 bottles, price each	98.00	73.50		
	Buy 10 bottles, price each	85.00	63.75		
01556	LIFE EXTENSION MIX™ POWDER - 14.81 oz	98.00	73.50		Т
	Buy 4 bottles, price each	86.00	64.50		
	Buy 10 bottles, price each	72.00	54.00		
01565	LIFE EXTENSION MIX™ - 315 tablets w/o copper	98.00	73.50		Н
	Buy 4 bottles, price each	86.00	64.50		
	Buy 10 bottles, price each	69.50	52.13		
01567	LIFE EXTENSION MIX™ W/EXTRA NIACIN 315 tablets w/o copper	98.00	73.50		\vdash
01001	Buy 4 bottles, price each	86.00	64.50		
	Buy 10 bottles, price each	69.50	52.13		
01564	LIFE EXTENSION MIX™ - 490 caps w/o copper	110.00	82.50		\vdash
51304	Buy 4 bottles, price each	98.00	73.50		
	· · · · · · · · · · · · · · · · · · ·				
01566	Buy 10 bottles, price each	85.00	63.75		\vdash
01566	LIFE EXTENSION MIX™ POWDER - 14.81 oz w/o copper	98.00	73.50		
	Buy 4 bottles, price each	86.00	64.50		
20000	Buy 10 bottles, price each	72.00	54.00		H
00263	LIFE FLORA™ - 300 mg, 120 caps	20.50	15.38		
	Buy 4 bottles, price each	18.75	14.06		

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No.		Retail Each	Member Each	Qty	Total
01377	LIFESHIELD® BREATHE™ - 60 veg. caps	\$34.95	\$26.21		
01349	LIFESHIELD® CORDYCEPS - 60 veg. caps	34.95	26.21		
01314	LIFESHIELD® IMMUNITY™ - 60 veg. caps	39.95	29.96		
01339	LIFESHIELD® REISHI™ - 60 veg. caps	34.95	26.21		
01227	LIVER FORCE - 30 veg. caps	34.95	26.21		
00939	5-LOXIN ® - 75 mg, 100 veg. caps	19.50	14.63		
	Buy 4 bottles, price each	17.25	12.94		
01013	L-LYSINE - 620 mg, 100 caps	9.00	6.75		
	Buy 4 bottles, price each	8.00	6.00		
00129	L-LYSINE POWDER - 300 grams	16.00	12.00		
	Buy 4 bottles, price each	13.75	10.31		
01470	LURALEAN® CAPS SPECIAL PROPOLMANNAN PARTICLE SIZE - 120 veq. caps	28.00	21.00		
	Buy 4 bottles, price each	25.00	18.75		
00455	LYCOPENE EXTRACT (MEGA) - 15 mg, 90 softgels	35.00	26.25		
00400	Buy 4 bottles, price each	30.00	22.50		
	M	30.00	22.30		
04000		¢10.00	Φ7.ΓΩ	_	_
01369	MAGNESIUM CAPS - 500 mg, 100 veg. caps	\$10.00	\$7.50		
20500	Buy 4 bottles, price each	9.00	6.75		
00502	MAGNESIUM CITRATE - 160 mg, 100 caps	9.00	6.75		
	Buy 4 bottles, price each	7.50	5.63		_
00704	MAITAKE™ SX-FRACTION - 90 veg. tablets	49.95	37.46		L
00547		5.75	4.31		
	Buy 4 bottles, price each	5.00	3.75		
01083	MELATONIN - 500 mcg, 200 veg. caps	18.00	13.50		
	Buy 4 bottles, price each	16.00	12.00		
00329	MELATONIN - 1 mg, 60 caps	5.00	3.75		
	Buy 4 bottles, price each	4.63	3.47		
00330	MELATONIN - 3 mg, 60 caps	8.00	6.00		
	Buy 4 bottles, price each	6.88	5.16		
01086	MELATONIN - 3 mg, 60 time-release veg. caps	10.50	7.88		
	Buy 4 bottles, price each	9.38	7.04		
00331	MELATONIN - 10 mg, 60 caps	28.00	21.00		
	Buy 4 bottles, price each	24.00	18.00		
00332	MELATONIN - 3 mg, 60 lozenges	8.00	6.00		
	Buy 4 bottles, price each	6.88	5.16		
01087	MELATONIN TIME RELEASE - 300 mcg, 100 veg. caps	6.25	4.69		
	Buy 4 bottles, price each	5.63	4.22		
01088	MELATONIN TIME RELEASE - 750 mcg, 60 veg. caps	5.75	4.31		
	Buy 4 bottles, price each	5.00	3.75		
01009	MEMORY UPGRADE™ - 600 grams powder	26.95	20.21		
01047	MENOPAUSE SOLUTIONS - 120 tablets	49.95	37.46		Т
00536	METHYLCOBALAMIN - 1 mg, 60 lozenges (vanilla)	9.95	7.46		Н
	Buy 4 bottles, price each	8.00	6.00		
00537	METHYLCOBALAMIN - 5 mg, 60 lozenges (vanilla)	32.00	24.00		\vdash
	Buy 4 bottles, price each	25.00	18.75		
	Buy 10 bottles, price each	23.00	17.25		
	ouy to notities, prive each	23.00	11.20		

No.		Retail Each	Member Each	Qty	Total
00709	MIGRA-EEZE™ (BUTTERBUR) - 60 softgels	\$29.50	\$22.13		
	Buy 4 bottles, price each	26.33	19.75		
01517	MILK THISTLE (CERTIFIED EUROPEAN) - 120 veg. caps	52.00	39.00		
	Buy 4 bottles, price each	48.00	36.00		
00623	MINERAL FORMULA FOR MEN - 100 caps	15.00	11.25		
	Buy 4 bottles, price each	12.50	9.38		
	Buy 12 bottles, price each	10.83	8.13		
00624	MINERAL FORMULA FOR WOMEN - 100 caps	15.00	11.25		
	Buy 4 bottles, price each	12.50	9.38		
	Buy 12 bottles, price each	10.83	8.13		_
01315	MIRAFORTE w/STANDARDIZED LIGNANS (SUPER) - 120 caps	62.00	46.50		
	Buy 4 bottles, price each	56.00	42.00		
01569	MITOCHONDRIAL BASICS w/BIOPQQ™ - 30 caps	52.00	39.00		
04500	Buy 4 bottles, price each	46.00	34.50		
01568	MITOCHONDRIAL ENERGY OPTIMIZER w/BIOPQQ™ - 120 caps	94.00	70.50		
00000	Buy 4 bottles, price each	84.00	63.00		
00803	MIST ORAL III w/COQ10 - 2 fl oz	28.00	21.00		
00065	Buy 4 bottles, price each	25.33 28.00	19.00	_	
COUUU	MK-7 - 90 mcg, 60 softgels	25.00	21.00		
01279	Buy 4 bottles, price each MOUTHWASH W/POMEGRANATE - 16 oz	18.50	13.88	_	\vdash
01213	Buy 4 bottles, price each	17.00	12.75		
00451	MSM (METHYLSULFONYLMETHANE) - 1000 mg, 100 caps	14.00	10.50		
00-10 1	Buy 4 bottles, price each	11.95	8.96		
	N	11.00	0.00		
00215	N-ACETYL-L-CYSTEINE - 600 mg, 60 caps	\$14.00	\$10.50		
00213	Buy 4 bottles, price each	13.50	10.13		
00168	* ''	10.50	7.88		
00100	NAPCA W/ALOE VERA - 8 fl oz				
00000	Buy 4 bottles, price each	9.61	7.21		
00066	NATTOKINASE - 60 softgels	24.98	18.74		
00891	NATURAL APPETITE CONTROL - 90 softgels	28.00	21.00		
	Buy 4 bottles, price each	25.20	18.90		
00984	NATURAL BP MANAGEMENT - 60 tablets	42.00	31.50		
	Buy 4 bottles, price each	37.80	28.35		
00913	NATURAL ESOPHAGUARD - 10 softgels	19.95	14.96		
	Buy 2 boxes, price each	19.00	14.25		
00712	NATURAL ESTROGEN w/POMEGRANATE EXTRACT - 60 caplets	38.00	28.50		
	Buy 4 bottles, price each	33.00	24.75		
01221	NATURAL FEMALE SUPPORT - 30 veg. caps	28.00	21.00		
	Buy 4 bottles, price each	24.00	18.00		
01471	NATURAL GLUCOSE ABSORPTION CONTROL - 60 veg. caps	39.00	29.25		
	Buy 4 bottles, price each	36.00	27.00		
00698	NATURAL RELIEF 1222™ - 2 0Z	28.00	21.00		
	Buy 4 tubes, price each	25.00	18.75		
01084	NATURAL SLEEP® - 3 mg, 60 veg. caps	12.99	9.74		
01004	Buy 4 bottles, price each	10.00	7.50		
01507	* ''			\vdash	
01007	NATURAL SLEEP® (ENHANCED) W/ MELATONIN- 30 caps	22.00	16.50		
04541	Buy 4 bottles, price each	20.00	15.00	_	
01511	NATURAL SLEEP® (ENHANCED) W/O MELATONIN - 30 caps	20.00	15.00		
	Buy 4 bottles, price each	18.00	13.50		

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To order call: 1.954.766.8433 or 1.800.544.4440

No.		Retail Each	Member Each	Qty	Tota
	N CONTINUED				
01085	NATURAL SLEEP MELATONIN® - 5 mg, 60 veg. caps	\$18.00	\$13.50		
	Buy 4 bottles, price each	16.00	12.00		
00987	NATURAL STRESS RELIEF - 30 veg. caps	28.00	21.00		
	Buy 4 bottles, price each	24.00	18.00		
01076	NEW FACE SOLUTION - 1.7 oz bottle	54.00	40.50		
	Buy 4 bottles, price each	49.00	36.75		
00373	NO-FLUSH NIACIN - 800 mg, 100 caps	19.00	14.25		
	Buy 4 bottles, price each	17.00	12.75		
01035	NUTRIM - 170 grams powder	25.95	19.46		
00523	N-ZIMES™ - 270 caps	23.90	17.93		
	Buy 4 bottles, price each	22.00	16.50		
	0	22.00	10.00		_
01518	OMEGA-3 CHEWABLES - 60 softchews, 120 mg EPA/DHA	\$24.00	\$18.00		
01010		22.00	16.50		
01483	Buy 4 pouches, price each OMEGA 3 EPA/DHA w/SESAME LIGNANS &	18.00	13.50		\vdash
01400	OLIVE FRUIT EXTRACT (SUPER) - 60 softgels	10.00	13.30		
	Buy 4 bottles, price each	16.00	12.00		
01482	OMEGA 3 EPA/DHA w/SESAME LIGNANS & OLIVE FRUIT EXTRACT (SUPER)- 120 softgels	32.00	24.00		
	Buy 4 bottles, price each	28.00	21.00		
	Buy 10 bottles, price each	24.90	18.68		
01484	OMEGA 3 EPA/DHA W/SESAME LIGNANS & - 120 enteric coated softgels OLIVE FRUIT EXTRACT (SUPER)	34.00	25.50		
	Buy 4 bottles, price each	31.00	23.25		
	Buy 10 bottles, price each	28.00	21.00		
01501	ONE-PER-DAY - 60 veg. tablets	19.95	14.96		
	Buy 4 bottles, price each	18.00	13.50		
01328	ONLY TRACE MINERALS - 90 caps	15.00	11.25		
	Buy 4 bottles, price each	12.50	9.38		
00915	OPTIZINC® - 30 mg, 90 veg. caps	5.95	4.46		
	Buy 4 bottles, price each	5.00	3.75		
01070	ORGANIC TOTAL BODY CLEANSE™ - 14-day supply	34.99	26.24		_
01070	P	04.00	20.24		
00107	PABA CAPS - 500 mg, 100 caps	\$15.42	\$11.57		
00107		13.59	10.19		
00073	Buy 4 bottles, price each PANCREATIN - 500 mg, 50 caps	13.22	9.92		_
00073					
01323	Buy 4 bottles, price each PEAK ATP® WITH GLYCOCARN® - 60 veg. caps	12.12 59.00	9.09 44.25		-
v 13∠3					
00040	Buy 4 bottles, price each	56.00	42.00		_
00342	PECTA SOL-C® MODIFIED CITRUS PECTIN - 454 grams powder	99.95	74.96		
01000	Buy 4 jars, price each	95.70	71.78		_
01080	PECTA SOL-C® MODIFIED CITRUS PECTIN - 270 veg. caps	69.95	52.46		_
00673	PGX™ SOLUBLE FIBER BLEND (WELLBETX®) -180 caps	34.95	26.21		_
00865	PHARMAGABA™ - 60 chewable tablets	29.95	22.46		
01000	Buy 4 bottles, price each	27.00	20.25		_
01320	PHOSCHOL® - 900 mg, 100 softgels	69.45	52.09		_
00368	PHOSPHATIDYLSERINE CAPS - 100 mg, 100 caps	54.00	40.50		
0004;	Buy 4 bottles, price each	48.00	36.00		
00614	PILL CUTTER/GRINDER	11.95	8.96		
00561	POLICOSANOL - 10 mg, 60 tablets	24.00	18.00		
	Buy 6 bottles, price each	18.00	13.50		
01423	POMEGRANATE™ (FULL-SPECTRUM) - 30 softgels	24.00	18.00		
	Buy 4 bottles, price each	21.00	15.75		
	SUB-TOTAL OF COLUMN 13				

No.		Retail Each	Member Each	Qty	Total
00956	POMEGRANATE EXTRACT - 30 veg. caps	\$19.50	\$14.63		
	Buy 4 bottles, price each	17.55	13.16		
00957	POMEGRANATE JUICE CONCENTRATE - 16 oz. liquid	25.95	19.46		
	Buy 4 bottles, price each	24.00	18.00		
00577	POTASSIUM IODIDE - 1 box, 14 tablets	6.95	5.21		
	Buy 4 boxes, price each	5.25	3.94		
01500	PQQ CAPS W/BIOPQQ™ - 10 mg, 30 veg. caps	24.00	18.00		
	Buy 4 bottles, price each	22.00	16.50		
00302	PREGNENOLONE - 50 mg, 100 caps	24.00	18.00		
00002	Buy 4 bottles, price each	19.00	14.25		
00700	PREGNENOLONE - 100 mg, 100 caps	26.00	19.50		
00700					
104070	Buy 4 bottles, price each	22.50	16.88		
†01373		52.00	39.00		
	Buy 4 bottles, price each	48.00	36.00		
00571	PRIMAL DEFENSE™ - 90 caplets	49.95	37.46		
	Buy 4 bottles, price each	48.50	36.38		
01019	PRIMAL DEFENSE™ - 180 caplets	78.95	59.21		
01329	PROBIOTIC ALL-FLORA® - 60 veg. caps	25.95	19.46		
01326	PROBIOTIC ANTI-AGING™ - 90 veg. caps	30.95	23.21		
01324	PROBIOTIC CLEANSE™ - 90 veg. caps	29.95	22.46		
01322	PROBIOTIC COLON™ - 90 veg. caps	30.95	23.21		
00525	PROBOOST THYMIC PROTEIN A™ - 4 mcg, 30 packets	72.00	54.00		
	Buy 4 boxes, price each	70.00	52.50		
00869	PRO FEM CREAM - 2 fl oz (Progesterone Cream)	32.00	24.00		
00000	Buy 4 bottles, price each	29.00	21.75		
01020			_		
01020	PROGREENS® - 15 stick pack	22.50	16.88		
01072	PRO M INTERNAL DEODERIZER - 500 mg, 100 veg. caps	28.00	21.00		
	Buy 4 bottles, price each	25.00	18.75		
	PROSTATE FORMULA W/ 5-LOXIN® STAND. LIGNANS (ULTRA NAT)-60 softgels	38.00	28.50		
	Buy 4 bottles, price each	35.00	26.25		
	Buy 12 bottles, price each	32.00	24.00		
01092	PROTEIN - VANILLA - (Enhanced Life Extension) -1000 grams powder	42.00	31.50		
	Buy 4 bottles, price each	40.00	30.00		
01093	PROTEIN - CHOCOLATE - (Enhanced Life Extension) -1000 grams powder	42.00	31.50		
	Buy 4 bottles, price each	40.00	30.00		
01094	PROTEIN - NATURAL - (Enhanced Life Extension) -1000 grams powder	42.00	31.50		
	Buy 4 bottles, price each	40.00	30.00		
01095	PROTEIN - BERRY - (Enhanced Life Extension) -1000 grams powder	42.00	31.50		
01000	Buy 4 bottles, price each	40.00	30.00		
00290					
00290	PROTEIN - VANILLA - (Designer Whey) 2 lbs powder	42.49	31.87		
00000	Buy 4 bottles, price each	38.50	28.88		
00282	PROTEIN - CHOCOLATE - (Designer Whey) 2 lbs powder	42.49	31.87		
	Buy 4 bottles, price each	38.50	28.88		
00283	PROTEIN - NATURAL - (Designer Whey) 2 lbs powder	42.49	31.87		
	Buy 4 bottles, price each	38.50	28.88		
01508	PTEROPURE™ - 50 mg Pterostilbene 60 veg. caps	32.00	24.00		
	Buy 4 bottles, price each	30.00	22.50		
01075	PURE PLANT PROTEIN - Natural Vanilla 450 grams powder	36.00	27.00		
	Buy 4 jars, price each	33.00	24.75		
01209	PUMPKIN SEED EXTRACT (WATER-SOLUBLE) - 60 veg. caps	20.00	15.00		
	Buy 4 bottles, price each	18.00	13.50		
01210	PUMPKIN SEED EXT w/SOY ISOFLAVONES (WATER-SOLUBLE) - 60 Veg. Caps	22.00	16.50		
	Buy 4 bottles, price each	20.00	15.00		
01031	PYCNOGENOL® - 60 veg. caps	89.95	67.46		
01217	PYRIDOXAL 5'-PHOSPHATE - 100 mg, 60 veg. caps	22.00	16.50	\vdash	
01217					
	Buy 4 bottles, price each	19.80	14.85		
	SUB-TOTAL OF COLUMN 14				

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01309	QUERCETIN (OPTIMIZED) - 250 mg, 60 veg. caps	\$18.00	\$13.50	
	Buy 4 bottles, price each	17.00	12.75	
01030	RED YEAST RICE (Bluebonnet)- 600 mg, 60 veg. caps	17.50	13.13	
00979	RED YEAST RICE (Nature's Plus)- 600 mg, 60 veg. caps	23.95	17.96	
00060	RED YEAST RICE EXTENDED RELEASE - 30 veg. tablets	21.50	16.13	
00605	REGIMINT - 60 enteric-coated caps	19.95	14.96	
	Buy 4 bottles, price each	18.67	14.00	
01448	REJUVENEX® BODY LOTION - 6 OZ	24.00	18.00	
	Buy 4 tubes, price each	19.80	14.85	
	Buy 8 tubes, price each	17.00	12.75	
00918	REJUVENEX® FACTOR - 1.7 oz airless pump	65.00	48.75	
	Buy 2 bottles, price each	60.00	45.00	
	Buy 4 bottles, price each	55.00	41.25	
	Buy 8 bottles, price each	49.91	37.43	
01220	REJUVENEX® (ULTRA) - 2 oz	52.00	39.00	
	Buy 2 jars, price each	48.00	36.00	
	Buy 4 jars, price each	44.00	33.00	
	Buy 8 jars, price each	39.93	29.95	
00676	REJUVENIGHT (ULTRA) - 2 oz	39.95	29.96	
	Buy 4 jars, price each	36.00	27.00	
00706	REJUVENIGHT w/PROGESTERONE (ULTRA) - 2 oz	42.00	31.50	
	Buy 4 jars, price each	38.00	28.50	
01413	RESVERATROL W/PTEROSTILBENE - 20 mg, 60 veg. caps	24.00	18.00	
	Buy 4 bottles, price each	22.00	16.50	
01410	RESVERATROL W/PTEROSTILBENE - 100 mg, 60 veg. caps	36.00	27.00	
	Buy 4 bottles, price each	32.00	24.00	
01430	RESVERATROL w/SYNERGISTIC GRAPE-BERRY ACTIVES (OPTIMIZED) - 250 mg, 60 veg. caps	46.00	34.50	
	Buy 4 bottles, price each	41.33	31.00	
00889	RHODIOLA EXTRACT - 250 mg, 60 veg. caps	11.75	8.81	
	Buy 4 bottles, price each	10.58	7.94	
00972	(D) RIBOSE POWDER - 150 grams	27.50	20.63	
	Buy 4 jars, price each	24.75	18.56	
01473	(D) RIBOSE TABLETS - 100 veg. tabs	32.00	24.00	
	Buy 4 bottles, price each	28.00	21.00	
01208	R-LIPOIC ACID (SUPER) - 300 mg, 60 veg. caps	49.00	36.75	
	Buy 4 bottles, price each	45.00	33.75	
00070	RNA CAPSULES - 500 mg, 100 caps	17.95	13.46	
	Buy 4 bottles, price each	16.16	12.12	
00917	ROSMARINIC ACID EXTRACT - 60 veg. caps	59.00	44.25	
	Buy 4 bottles, price each	53.00	39.75	
	S			
01082	SACCHAROMYCES BOULARDII+MOS - 30 veg. caps	\$9.95	\$7.46	
01067	SACCHAROMYCES BOULARDII+MOS - 90 veg. caps	21.95	16.46	
01432	SAFFRON w/SATIEREAL (OPTIMIZED) - 60 veg. caps	36.00	27.00	
	Buy 4 bottles, price each	32.00	24.00	
00573	SAMBU® GUARD - 175 ml	17.49	13.99	
00358	SAME (S-ADENOSYL-METHIONINE) – 200 mg, 20 enteric coated tablets	17.00	12.75	
	Buy 8 boxes, price each	15.00	11.25	

No.		Retail Each	Member Each	Qty	Total
00453	SAME (S-ADENOSYL-METHIONINE) - 200 mg, 50 enteric coated tablets	\$40.00	\$30.00		
	Buy 4 bottles, price each	35.00	26.25		
00557	SAME (S-ADENOSYL-METHIONINE) - 400 mg, 20 enteric coated tablets	32.00	24.00		
	Buy 6 boxes, price each	25.00	18.75		
01055	SAME (S-ADENOSYL-METHIONINE) - 400 mg, 50 enteric coated tablets	72.00	54.00		
	Buy 4 bottles, price each	66.00	49.50		
01043	SEA-IODINE™ - 1000 mcg, 60 veg. caps	8.00	6.00		
	Buy 4 bottles, price each	7.20	5.40		
00046	SELENIUM - 2 oz dropper bottle	9.95	7.46		
	Buy 4 bottles, price each	9.45	7.09		
00567	SE-METHYL L-SELENOCYSTEINE - 200 mcg, 100 caps	12.00	9.00		
00001	Buy 4 bottles, price each	11.00	8.25		
00318	SERRAFLAZYME - 100 tablets	18.00	13.50		
00310					
00011	Buy 4 bottles, price each	16.00	12.00		
00011	SHAMPOO - 16 fl oz	6.00	4.50		
2000:	Buy 4 bottles, price each	4.75	3.56		<u> </u>
00284	SHARK LIVER OIL (NORWEGIAN) - 1000 mg, 30 softgels	18.00	13.50		
	Buy 4 bottles, price each	16.00	12.00		_
00184	SILYMARIN - 100 mg, 50 caps	9.25	6.94		
	Buy 4 bottles, price each	8.25	6.19		
01502	SKIN RESTORING CERAMIDES w/LIPOWHEAT™ - 30 liquid caps	25.00	18.75		
	Buy 4 bottles, price each	23.00	17.25		
00961	SODZYME® w/ GLISODIN® AND WOLFBERRY - 90 veg. caps	28.00	21.00		
	Buy 4 bottles, price each	24.00	18.00		
00657	SOLARSHIELD SUNGLASSES - 1 pair smoke color	12.99	9.74		
	Buy 2 pairs, price each	11.50	8.63		
01097	SOY EXTRACT (ULTRA) - 150 veg. caps	87.00	65.25		
	Buy 4 bottles, price each	78.00	58.50		
00286	SOY PROTEIN CONCENTRATE - 16 oz of powder	12.00	9.00		
	Buy 4 jars, price each	10.63	7.97		
01099	STABILIUM® 200 - 30 caps	30.00	22.50		
00432	STEVIA EXTRACT - 100 packets, 1 gram each	9.95	7.46		
50 102	Buy 4 boxes, price each	9.00	6.75		
00351	ST. JOHN'S WORT EXTRACT - 300 mg, 60 caps	10.98	8.24		
00001	Buy 4 bottles, price each	10.00	7.50		
กกรรร		16.75	12.56		
00327	ST. JOHN'S WORT EXTRACT (PLANETARY) - 600 mg, 60 tablets				
24.470	Buy 4 bottles, price each	13.85	10.39		
01476	STRONTIUM - 750 mg, 90 veg. caps	20.00	15.00		
	Buy 4 bottles, price each	18.00	13.50		
00971	SUN PROTECTION SPRAY W/BETA GLUCAN - SPF30 - 6 oz	14.95	11.21		
	Buy 4 bottles, price each	13.50	10.13		
00747	SUNGLASSES (OVERXCAST POLARIZED) - gray color, large	27.00	20.25		
	Buy 2 pairs, price each	21.00	15.75		
00748	SUNGLASSES (OVERXCAST POLARIZED)- gray color, medium	27.00	20.25		
	Buy 2 pairs, price each	21.00	15.75		
00758	SUPER ABSORBABLE SOY ISOFLAVONES - 60 caps	28.00	21.00		
	Buy 4 bottles, price each	25.00	18.75		
01381	SUPERCRITICAL OMEGA 7™	56.95	42.71		
01348	SUPERCRITICAL OREGANOFORCE™ - 30 softgels	31.95	23.96		
01408	SUPER SAW PALMETTO/NETTLE ROOT W/BETA-SITOSTEROL 60 softgels	28.00	21.00		
	Buy 4 bottles, price each	26.00	19.50		
	Buy 12 bottles, price each	24.00	18.00		
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01407	SUPER SAW PALMETTO W/BETA-SITOSTEROL - 30 softgels	\$15.00	\$11.25		
	Buy 12 bottles, price each	12.00	9.00		
00578	SUPER SELENIUM COMPLEX - 200 mcg, 100 caps	12.00	9.00		
	Buy 4 bottles, price each	10.00	7.50		
	Buy 12 bottles, price each	9.00	6.75		
00674	SYTRINOL™ - 60 softgels	32.00	24.00		
	Buy 4 bottles, price each	28.00	21.00		
	T				
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	1-800-544-4440 or visit www.LifeExtension.com				
01062	TART CHERRY - 600 mg, 60 caps	\$18.95	\$14.21		
00199	TAURINE - 1000 mg, 50 caps	8.95	6.71		
	Buy 4 bottles, price each	8.00	6.00		
00133	TAURINE POWDER - 300 grams	20.00	15.00		
00100	Buy 4 bottles, price each	16.88	12.66		
01304	THEAFLAVIN STANDARDIZED EXTRACT - 30 veg. caps	18.00	13.50		
U 1 JU4		16.00	12.00		
00557	Buy 4 bottles, price each				\vdash
00555	(L) THEANINE - 100 mg, 60 caps	24.00	18.00		
###O4.000	Buy 4 bottles, price each	20.50	15.38		<u> </u>
	THERALAC PROBIOTICS - 30 caps	44.95	33.71		H
00224	THYMIC IMMUNE FACTORS - 100 caps	18.00	13.50		
	Buy 4 bottles, price each	14.00	10.50		
00668	THYROID FORMULA™ (METABOLIC ADVANTAGE) - 100 caps	21.95	16.46		
00349	TMG POWDER - 50 grams	14.00	10.50		
00359	Buy 4 bottles, price each	11.00	8.25		
	TMG - 500 mg, 180 tablets	18.00	13.50		
	Buy 4 bottles, price each	15.50	11.63		
00781	TOCOTRIENOLS WITH SESAME LIGNANS - 60 softgels	38.00	28.50		
	Buy 4 bottles, price each	36.00	27.00		
01400	TOCOTRIENOLS (SUPER-ABSORBABLE) - 60 softgels	30.00	22.50		
	Buy 4 bottles, price each	28.00	21.00		
01278	TOOTHPASTE - 4 oz (Mint)	9.50	7.13		
	Buy 4 tubes, price each	8.67	6.50		
01274	TOTAL SUN PROTECTION CREAM W/BETA GLUCAN - 4 OZ	28.00	21.00		
	Buy 4 tubes, price each	25.20	18.90		
01468	TRIPLE ACTION CRUCIFEROUS VEGETABLE EXTRACT- 60 veg. caps	24.00	18.00		
	Buy 4 bottles, price each	22.00	16.50		
01469	TRIPLE ACTION CRUCIFEROUS VEGETABLE EXTRACT	32.00	24.00		
	W/RESVERATROL -60 veg. caps				
	Buy 4 bottles, price each	29.60	22.20		
00866	TRYPTOPURE® L-TRYPTOPHAN - 500 mg, 90 veg. caps	38.00	28.50		
	Buy 4 bottles, price each	34.00	25.50		
01202	TRYPTOPURE® PLUS (OPTIMIZED) - 90 veg. caps	40.00	30.00		П
	Buy 4 bottles, price each	36.00	27.00		
01516	TWO-PER-DAY - 60 veg. tablets	9.95	7.46		
	Buy 4 bottles, price each	9.00	6.75		
01515	TWO-PER-DAY - 120 veg. tablets	18.95	14.21		
-	Buy 4 bottles, price each	17.00	12.75		
00326	L-TYROSINE - 500 mg, 100 tablets	12.50	9.38		\vdash
-0020	Buy 4 bottles, price each	11.42	8.57		

No.		Retail Each	Member Each	Qty	Total
	U				
00310	UDO'S OIL 3-6-9 BLEND - 17 fl oz	\$27.49	\$21.99		
00311	UDO'S 3-6-9 OIL BLEND - 180 caps	33.79	27.03		
00322	UDO'S CHOICE® WHOLESOME FAST FOOD - 16 oz bottle	27.49	21.99		
01061	ULTIMATE FLORA ADVANCED IMMUNITY PROBIOTICS - 30 caps	29.99	22.49		
	V				
00213	VANADYL SULFATE - 7.5 mg, 100 tablets	\$15.00	\$11.25		
	Buy 4 bottles, price each	12.50	9.38		
00252	VELVET DEER ANTLER - 250 mg, 30 caps	36.00	27.00		
	Buy 4 bottles, price each	34.00	25.50		
00408	VENOTONE - 60 caps	18.95	14.21		
	Buy 4 bottles, price each	16.00	12.00		
)1327	VINPOCETINE - 10 mg, 100 tablets	18.00	13.50		
	Buy 4 bottles, price each	14.00	10.50		
01033	VISION OPTIMIZER - 90 caps	29.95	22.46		
01098	VITAL GREENS MIX - 319.5 grams powder	48.00	36.00		
	Buy 4 jars, price each	44.00	33.00		
)1219	VITAMIN A NUTRISORB - 0.6 fl oz	27.00	20.25		
00091	VITAMIN B1 CAPS - 500 mg, 100 caps	18.73	14.05	\vdash	_
1000		17.00	12.75		
20002	Buy 4 bottles, price each	14.32	10.74	_	
00093	VITAMIN B2 CAPS - 100 mg, 100 caps	1			
20000	Buy 4 bottles, price each	13.00	9.75	_	
00096	VITAMIN B3 NIACIN - 1000 mg, 100 caps	12.75	9.56		
	Buy 4 bottles, price each	12.00	9.00	_	
00372	VITAMIN B3 NIACIN - 500 mg, 100 caps	7.65	5.74		
	Buy 4 bottles, price each	6.65	4.99		
00098	VITAMIN B5 - 500 mg, 100 caps (Pantothenic Acid)	10.50	7.88		
	Buy 4 bottles, price each	9.38	7.04		
00556	VITAMIN B6 - 250 mg, 100 caps	12.50	9.38		
	Buy 4 bottles, price each	11.00	8.25		
00361	VITAMIN B12 - 500 mcg, 100 lozenges	8.75	6.56		
	Buy 4 bottles, price each	7.25	5.44		
0927	VITAMIN C WITH DIHYDROQUERCETIN - 1000 mg, 250 tablets	25.50	19.13		
	Buy 4 bottles, price each	23.25	17.44		
00084	VITAMIN C (BUFFERED) POWDER - 454.6 grams	23.95	17.96		
	Buy 4 bottles, price each	22.00	16.50		
00864	VITAMIN D3 - 2000 IU, 1 fl oz	28.00	21.00		
	Buy 4 bottles, price each	25.00	18.75		
0251	VITAMIN D3 - 1000 IU, 250 caps	12.50	9.38		
	Buy 4 bottles, price each	11.25	8.44		
00713	VITAMIN D3 - 5000 IU, 60 caps	11.00	8.25		
	Buy 4 bottles, price each	9.90	7.43		
)1418	VITAMIN D3 - 7000 IU, 60 caps	14.00	10.50		
	Buy 4 bottles, price each	12.60	9.45		
)1372	VITAMIN D3 w/SEA-IODINE™ - 5000 IU, 60 veg. caps	14.00	10.50	\vdash	
, 1012	Buy 4 bottles, price each	12.50	9.38		
)1472	VITAMINS D AND K w/SEA-IODINE™ - 60 veg. caps	24.00	18.00	\vdash	_
,1712			16.50		
00060	Buy 4 bottles, price each	22.00		\vdash	
00063	VITAMIN E (PURE NATURAL) - 400 IU, 100 caps	18.75	14.06		
	Buy 4 bottles, price each	17.25	12.94		
	Buy 10 bottles, price each	15.00	11.25		
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01225	VITAMIN K2 (LOW-DOSE) - 45 mcg, 90 softgels	\$18.00	\$13.50		
	Buy 4 bottles, price each	16.00	12.00		
	Z				
01585	ZEAXANTHIN W/LUTEIN & MESO-ZEAXANTHIN AND C3G (SUPER)- 60 softgels	\$22.00	\$16.50		
	Buy 4 bottles, price each	19.80	14.85		
01586	ZEAXANTHIN W/LUTEIN & MESO-ZEAXANTHIN - 60 softgels PLUS ASTAXANTHIN AND C3G (SUPER)	42.00	31.50		
	Buy 4 bottles, price each	38.00	28.50		
00061	zinc Lozenges - 75 lozenges	9.50	7.13		
	Buy 4 bottles, price each	6.75	5.06		
01051	ZYFLAMEND - 120 softgels	60.95	45.71		
01029	ZYFLAMEND EASYCAPS - 180 softgels	31.95	23.96		

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Jarro-Dophilus EPS® 60 caps Item #00056 Retail Price - \$21.95 Member Price - \$16.46

Superior Probiotics from Jarrow Formulas®

The proper balance of microflora in the intestines is crucial for health and well-being. **Jarrow Formulas**® probiotic dietary supplements are designed to maintain a healthy balance of these microflora to maximize your digestive and immune system.*

Jarrow Formulas[®] is a probiotic pioneer and has a complete line of probiotic products, including the #1 seller in the U.S.[†] – **Jarro-Dophilus EPS**[®], and the new **Ideal Bowel Support**[™] **299v**[™], which reduces bloating, gas and intestinal discomfort.*

†# #1 in both Dollar Sales and Unit Volume in the Natural Channel, according to SPINS, a market research and consulting firm for the Natural Product Industry (SPINScan Natural, 52 Weeks Ending 1/22/11).

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To order call 1-800-544-4440 or visit www.LifeExtension.com

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* These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure or prevent any disease.

Ideal Bowel Support™

299v™ Item #01065

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Don't suffer the harsh side effects of antibiotics.

Take Theralac[®].

ANTIBIOTICS AND THERALAC WORK HAND IN HAND.

Many people taking antibiotics suffer disruption of their intestinal flora and. consequently, their digestive regularity suffers. Antibiotics reduce the numbers of beneficial probiotic bacteria and may cause undesirable bacteria to flourish.

One particular adverse bacteria, Clostridium difficile, or C. diff., is known to be resistant to antibiotics and can cause severe diarrhea. The

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Theralac has been proven in a



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tain normal intestinal flora while people were on antibiotics.

In a double-blind, placebo-controlled study subjects took the equivalent of two Theralac capsules daily for two weeks while on the powerful antibiotic Augmentin®. The results were amazing! The 10 SEPARATE TIMES IN THE BLAYLOCK Theralac group

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flora while the non-Theralac® group experienced substantial disruption.

Theralac assists with nutrient absorption and helps regulate peristaltic action. Theralac helps maintain

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LEADING DOCTORS RECOMMEND THERALAC.

Dr. Russell Blaylock, MD, recommends taking 2-4 Theralac capsules daily while on antibiotics, continuing for two weeks following antibiotic therapy. And key doctors of Lyme disease patients rely on Theralac to

help patients suffering from severe antibiotic associated diarrhea.

So to ensure digestive health while taking antibiotics, order Theralac today by calling 800-544-4440 or

visit LifeExtension.com.

Then take your antibiotics and avoid unintended consequences.



Theralac, 30 capsules Item# 01038 Retail price: \$44.95 **Call for LEF Member Pricing**

Call *Life Extension* now to order Theralac and feel the benefits for yourself. Theralac is quaranteed through expiration and protected by 2 US patents.

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RECOMMENDED

WELLNESS REPORT

The Aging Process:

Is There a Cure?

While there is no "cure" for the natural aging process, aging gracefully doesn't have to be difficult. Let nature do its part.

For most of us an epiphany happens during our middle-age years, when we realize that to have a positive aging experience there is no choice but to take excellent care of our bodies. During this time, we examine how we have treated our body and the effects it has had on our aging process. Then, we look ahead and try to figure out how we can work with our bodies to maintain our youth.

The good news is that life expectancy is rising every year. In 2007 the Centers for Disease Control and Prevention (CDC) announced that the average American's life expectancy is 77.9 years. This means that we are starting to figure out how to take better care of our bodies and allow for a natural aging process. Adopting a lifestyle that includes regular physical exercise, rest, and a healthy diet with targeted herbals can be the best way to age gracefully.

An ideal anti-aging protocol is one that includes Nature's most effective herbs and nutrients targeted at cardiovascular, liver, intestinal, and inflammation health.



Probiotic All-Flora® Optimal Digestive & Immune System Function*

The live probiotics in Probiotic All-Flora help support optimal digestive and immune system function.* Organic Apples and organic Jerusalem Artichoke Inulin provide prebiotic nourishment

to enhance probiotic benefits.* At the time of manufacture, there are 8 billion probiotic live cells in two capsules of Probiotic All-Flora.

Probiotic All-Flora 60 Vegetarian Capsules

Item# 01329 Retail Price \$25.95 Member Price \$19.46



Probiotic Anti-Aging™* Live Probiotics Antioxidant Formula*

Probiotics Antioxidant Formula^a
Probiotic Anti-Aging contains ten strains of live

probiotics cultured together on a non-dairy, organic food medium. These contain growthstimulating prebiotic whole foods with naturally occurring antioxidants including organic Blue-

berry, organic Green Tea, and organic Ginger.

Probiotic Anti-Aging 90 Vegetarian Capsules

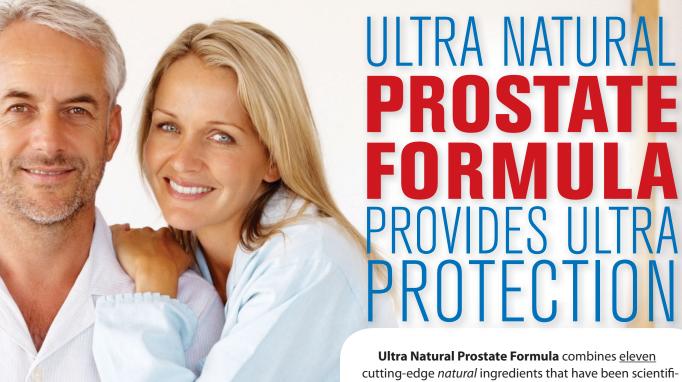
Item# 01326 Retail Price \$30.95 Member Price \$23.21

To order Probiotic All-Flora® and Probiotic Anti-Aging™, call 1-800-544-4440 or visit www.LifeExtension.com

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The daily dose of two softgels of Ultra Natural Prostate Formula provides:

USPlus® Saw Palmetto (CO ₂ DeepExtract™)	320	mg
(std to 85%-95% total fatty acids and sterols)		
Graminex Flower Pollen Extract™	252	mg
5-LOXIN®	70	mg
Pumpkin seed oil (Cucurbita pepo)	200	mg
extract (standardized to 85% total fatty acids)		
Stinging nettle root extract (Urtica dioica)	240	mg
Pygeum extract	100	mg
Lycopene	10	mg
Phytosterol complex	678	mg
(standardized to 26.6% free beta-sitosterol)		
Proprietary blend of HMRlignan™	20.15	mg
Norway Spruce and ActiFlax™ Flax Lignan extracts		
Roron	3	ma

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Ultra Natural Prostate Formula combines <u>eleven</u> cutting-edge *natural* ingredients that have been scientifically substantiated to protect the prostate gland and maintain its healthy function.* One of the newest additions to the formula is **European pumpkin seed oil extract**, which is rich in **delta-7 sterols** and **fatty acids**.

The formula provides **saw palmetto extract** and **Graminex Flower Pollen Extract**[™] to interfere with DHT activity and help regulate inflammatory reactions in the prostate.* **Lycopene** is a carotenoid that has been added to the formula to help maintain healthy DNA gene function in prostate cells.

In order to boost its anti-estrogen capabilities, **Ultra Natural Prostate Formula** incorporates **HMRLignan**[™],
derived from Norway spruce, flax lignans, and **nettle root extract**.

Since normal aging can lead to potentially unsafe levels of prostaglandins in the prostate, *Pygeum africanum* extract is included to help suppress prostaglandins and thereby promote prostate comfort.* **Beta-sitosterol** has been added because it is the most biologically active component of *pygeum* and enhances its protective effects.

Ultra Natural Prostate Formula also contains **5-LOXIN**° **boswellia extract** to protect against the dangerous enzyme *5-lipoxygenase* and the mineral

specific antigen (PSA).

The retail price for one bottle of **Ultra Natural Prostate Formula** is \$38. If a member buys four bottle, the price is reduced to **\$26.25** per bottle. If a member buys 12 bottles, the price is reduced to **\$24** per bottle.

boron to help slow elevation of prostate-

Contains soybeans and corn.



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WHAT'S INSIDE

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LifeExtension° Magazine



30 KRILL FORMULA COMBATS ARTHRITIS PAIN

Conventional arthritis treatments fail because they do <u>not</u> neutralize damaging molecules that attack aging joints. A novel combination of low-dose krill oil, hyaluronic acid, and astaxanthin targets these molecules, thereby reducing or eliminating arthritis pain.



54 INFLAMMATORY FACTOR BEHIND MOST CANCERS

Virtually all cancers utilize a molecule called *nuclear factor-kappaB* to regulate tumor cell growth and spread. Nutrients that health-conscious people supplement with today <u>suppress</u> NF-kB activity.



76 TOPICAL RESVERATROL COMBATS SKIN AGING

When applied *topically*, resveratrol has been shown to help protect against skin aging, with **17 times** the antioxidant potency of the expensive anti-wrinkle drug *idebenone*.



7 AVOID THE CATASTROPHIC EVENT

Just one catastrophic event can launch degenerative processes that terminate in death, even in those who take extraordinary steps to stay healthy. *Aortic stenosis* is an example of such a catastrophe. The good news is that a vitamin introduced in 1999 may avert this crippling cardiac problem.



66 AGE-DEFYING OLYMPIAN DARA TORRES

Olympic swimming icon Dara Torres has won 12 medals in the past 24 years, including three in 2008 as a 41-year-old mother. She discusses the keys to her career longevity, her quest for another Olympic win in 2012, and the program that helps fuel her success.



PLUS-

OMEGA-3s PREVENT COGNITIVE DECLINE; GARLIC AND GRAPE SEED SUPPLEMENTS LOWER BLOOD CANCER RISK; GREEN TEA PROTECTS AGAINST INFLUENZA; AND MORE.