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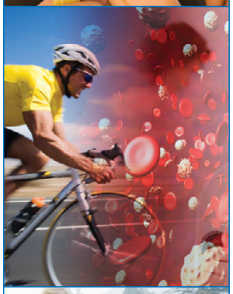
The SUPER SALE extends to February 1, 2010. Members traditionally take advantage of the **SUPER SALE** to stock up on a year's supply of their favorite supplements. To place your order, **call 1-800-544-4440** or visit **www.lef.org** (**SUPER SALE** pricing available only to members in the US, Canada, and England.)

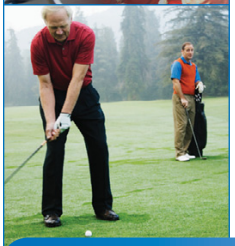
CONTENTS

LifeExtension®

Volume Sixteen / Number Two ■ February 2010

REPORTS





DEPARTMENTS

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Volume Sixteen / Number Two ■ February 2010

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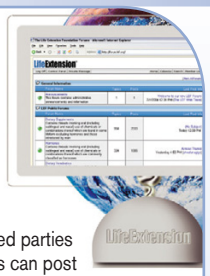

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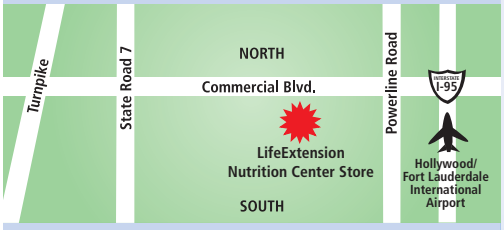

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NEW TRIPLE ACTION CRUCIFEROUS Vegetable Extract with Apigenin

ITEM #01468 ITEM #01469

Scientists have identified specific extracts from ***cruciferous vegetables***—such as broccoli, cauliflower, cabbage and Brussels sprouts—that help maintain healthy hormone levels. Maintaining optimal hormone balance is essential to any anti-aging strategy. **Triple Action Cruciferous Vegetable Extract** combines these plant extracts into the most comprehensive food-based, plant compilation for cell protection yet.

I3C (indole-3-carbinol) and ***DIM (di-indolyl-methane)*** favorably modulate estrogen metabolism and induce liver detoxification enzymes to help neutralize potentially harmful estrogen metabolites and xenoestrogens (potentially toxic, estrogen-like environmental chemicals).[1-4]

Extracts of ***broccoli***, ***watercress***, and ***rosemary*** provide *glucosinolates, isothiocyanates, carnosic acid,* and *carnosol*—bioactive compounds that have a multitude of favorable effects on estrogen metabolism and cell division.[5-8] **Apigenin**, a powerful plant flavonoid found in plants such as **parsley** and **celery**, is also added to the formula to boost cell protection,[9] while 25 mg of a natural source of benzyl isothiocyanate (BITC), are included to maintain cell health.[10]

For those weighing less than 160 pounds, just one capsule a day provides optimal potencies. Those weighing over 160 pounds should consider taking two capsules a day. A 60-capsule bottle of **Triple Action Cruciferous Vegetable Extract** retails for $24. If a member buys four bottles during **Super Sale**, the price is reduced to only **$14.85 per bottle**.

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

Broccoli Super Concentrate [standardized to 4% glucosinolates (16 mg)]	**400 mg**
Watercress 4:1 extract	**50 mg**
Indole-3-Carbinol (I3C)	**80 mg**
Rosemary Extract	**50 mg**
Cat's Claw Extract	**50 mg**
Cabbage Extract	**25 mg**
DIM (di-indolyl-methane)	**14 mg**
Apigenin	**25 mg**

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 during **Super Sale**, the price is reduced to only **$19.98 per bottle**.

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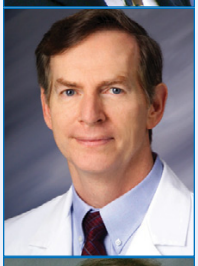
To order the New Triple Action Cruciferous Vegetable Extract, call 1-800-544-4440 or visit www.LifeExtension.com

SCIENTIFIC **ADVISORY BOARD**

Örn Adalsteinsson, PhD holds a master's and doctorate from the Massachusetts Institute of Technology (MIT). He has specialized in human therapeutics including vaccines, monoclonal antibodies, product development, nutraceuticals, formulations, artificial intelligence, hormones, and nutritional supplementation. He has also authored articles and contributed to peer-reviewed publications, and served as an editor for the *Journal of Medicinal Food*.



Russell L. Blaylock, MD, is a board-certified neurosurgeon, author, and lecturer. He recently retired from his neurosurgical practice to devote his time to nutritional studies and research. He has written numerous journal articles and three books *(Excitotoxins: The Taste That Kills, Health and Nutrition Secrets That Can Save Your Life*, and *Natural Strategies for the Cancer Patient)*, and currently publishes a monthly nutrition newsletter, *The Blaylock Wellness Report*.

John Boik, PhD, is the author of two books on cancer therapy, *Cancer and Natural Medicine* (1996) and *Natural Compounds in Cancer Therapy* (2001). He obtained his doctorate at the University of Texas Graduate School of Biomedical Sciences with research at the MD Anderson Cancer Center, focusing on screening models to identify promising new anticancer drugs. He is currently a post doctoral fellow at Stanford University Department of Statistics.

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Richard Kratz, MD, DSci, is clinical professor of ophthalmology at the University of California, Irvine, and the University of Southern California (Los Angeles). Dr. Kratz pioneered the cataract-removal technique called phacoemulsification and developed intraocular lenses to replace the crystalline lens. He is currently involved in projects relating to glaucoma, cataract extraction, and facilitating eyesight for the totally blind.

Peter H. Langsjoen, MD, FACC, is a cardiologist specializing in congestive heart failure, primary and statin-induced diastolic dysfunction, and other heart diseases. A leading authority on coenzyme Q10, Dr. Langsjoen has been involved with its clinical application since 1983. He is a founding member of the Executive Committee of the International Coenzyme Q10 Association, a fellow of the American College of Cardiology, and a member of numerous other medical associations.

Ralph W. Moss, PhD, is the author of books such as *Antioxidants Against Cancer*, *Cancer Therapy*, *Questioning Chemotherapy*, and *The Cancer Industry*, as well as the award-winning PBS documentary, "The Cancer War." Dr. Moss has independently evaluated the claims of various cancer treatments, and currently directs The Moss Reports, an updated library of detailed reports on more than 200 varieties of cancer diagnoses.

Michael D. Ozner, MD, FACC, FAHA is a board-certified cardiologist who specializes in cardiovascular disease prevention. He serves as medical director for the Cardiovascular Prevention Institute of South Florida, and is a noted national speaker on heart disease prevention. Dr. Ozner is also author of *The Great American Heart Hoax* and *The Miami Mediterranean Diet* (2008, Benbella Books). For more information visit www.drozner.com.

Stephen B. Strum, MD, is a medical oncologist who has specialized in prostate cancer treatment since 1983. He is co-founder and past medical director of the Prostate Cancer Research Institute. Currently, he directs a practice for prostate cancer patients in Ashland, OR.

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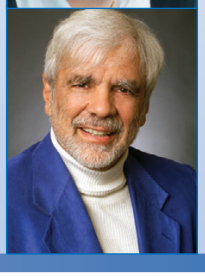

Jonathan V. Wright, MD, is medical director of the Tahoma Clinic in Renton, WA. He received his MD from the University of Michigan and has taught natural biochemical medical treatments since 1983. Dr. Wright pioneered the use of bioidentical estrogens and DHEA in daily medical practice. He has authored 11 books and publishes *Nutrition and Healing*, a monthly newsletter with a worldwide circulation of more than 100,000.

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Diminished levels of neurotransmitters and other brain compounds profoundly affect cognition and memory in aging adults. **Cognitex** was developed in **1982** to increase brain levels of ***acetylcholine*** — a neurotransmitter that enables neurons to communicate. Over the years, **Cognitex** has been improved with the addition of nutrients used in **Europe** to protect and enhance neurological function.

Cognitex with Pregnenolone & NeuroProtection Complex provides the following **scientifically validated** nutrients to provide broad-spectrum neurological support:

- **Uridine-5′-monophosphate (UMP)** is a phosphatide building block of RNA-DNA that is critical to optimal brain function and the health of neuronal cell membranes. Naturally found in the milk of nursing mothers, UMP is essential not only for the growth and development of infant brains, but also for healthy cognitive function in aging adults.
- **Sharp-PS® GOLD**, a rich **phosphatidylserine** compound bound to **DHA**, promotes already-normal neuronal cell membrane function and structure.
- **Alpha-glyceryl phosphoryl choline (A-GPC)** boosts acetylcholine, a critical neurotransmitter that declines with age.
- **Vinpocetine** enhances circulation and oxygenation to brain cells, improves neural electrical conductivity, and protects against neuron-destroying excitotoxicity.
- **Phospholipid-grape seed extract** bound together results in a compound that is better absorbed into the bloodstream where it improves blood vessel tone and elasticity, thus enhancing blood circulation and oxygen flow to the brain.
- **Wild blueberry extract** protects against free-radical damage in the brain and helps maintain fluid balances already within the normal range.
- **Sensoril® ashwagandha extract** helps alleviate mental fatigue by inhibiting an enzyme (acetylcholinesterase) that degrades acetylcholine in the aging brain.
- **Proprietary NeuroProtection Complex Blend** contains standardized extracts of **hops**, **ginger**, and **rosemary** — proven to help with inflammation.
- **Pregnenolone** is a hormone that may be especially beneficial to the brain.

The retail price for 90 softgels of Cognitex (with or without pregnenolone) is $74 (item #00922) and $72 (item #00921), respectively. If a member orders four bottles of either version during **Super Sale**, the price per bottle is reduced to just **$44.96** and **$43.20**, respectively.

***Caution**: Cognitex is also available without pregnenolone for those with existing steroid hormone-sensitive cancer.*

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Just three softgels of Cognitex provide the following nutrients:

Alpha-Glyceryl Phosphoryl Choline (A-GPC)	**600 mg**
Phosphatidylserine-DHA (PS-DHA) [Sharp-PS® GOLD Conjugated Phosphatidylserine-DHA]	**100 mg**
Pregnenolone	**50 mg**
Vinpocetine	**20 mg**
Phospholipid-Grape Seed Extract	**150 mg**
Wild Blueberry (*Vaccinium angustifolium*) **130:1 Extract**	**150 mg**
Sensoril® Ashwagandha Extract (*Withania somnifera*)	**125 mg**
Uridine-5′-Monophosphate (disodium)	**50 mg**
Proprietary NeuroProtection Complex Blend	**125 mg**
Perluxan® Hops Extract (*Humulus lupulus*)	
Ginger (*Zingiber officinale*) Extract	
Rosemary (*Rosmarinus officinalis*) Extract	

Item #00921 **Item #00922**

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

Reap Benefits of Calorie Restriction without Chronic Hunger

BY WILLIAM FALOON

The most significant **anti-aging discovery** in history was made in **1935.** In that year, rats fed a **calorie restricted** diet achieved radically-extended mean and maximum life spans, along with a delayed onset of age-related diseases.[1]

Since this finding was published 75 years ago, dozens of experiments in mammals have validated that **undernutrition *without* malnutrition** induces ***profound*** anti-aging effects.[2-10] Not only do calorie restricted animals live much longer, but they remain far healthier than normally-fed controls.

When a group of humans consumed a similar calorie restricted diet, their conventional blood markers of aging (excess glucose, cholesterol, triglycerides, LDL) plummeted to much lower levels.[11,12]

In the most significant finding to date, two groups of Rhesus monkeys were studied for **twenty years**. The group placed on a ***moderately*** restricted diet reduced their incidence of age-related disease by a **factor of three**! Cancers and cardiovascular disease were **less than half** in the ***moderate*** calorie restricted group compared to controls. None of the moderate calorie restricted group developed **diabetes** or impaired glucose tolerance, despite a usually high prevalence in these monkeys. An interesting finding showed that *moderate* calorie reduction preserved ***brain volume*** in certain regions.[13] Normal aging is accompanied by brain ***shrinkage*** as neurons are lost.

This issue of ***Life Extension®*** is dedicated to providing practical options to attain many of the beneficial effects of **calorie restriction**. Our objective is to help induce the favorable changes in our members' bodies that may be responsible for the remarkable age-delaying and disease-protecting effects of reduced calorie intake.

A Time to Make Personal Commitments

After reading this article, I hope each of you will reduce some of the excess calories you ingest each day. I can almost promise that if you do it right, you'll never miss these surplus ***age-accelerating*** sugars and fats. Even if you are unable to cut a single calorie, we are going to show how you can benefit nonetheless.

A study of those making New Year's resolutions showed that **46%** are compliant after six months.[14] During this time of year, when people strive for a healthier and longer life, I believe most of you will succeed in cutting back at least *some* excess food intake.

We All Eat Too Much

Calorie-dense toxic foods are abundant, cheap and heavily advertised. It is no wonder that so many children and adults eat far more than what their bodies require.

Excess calorie intake causes our bloodstream to be chronically 'bloated' with glucose, insulin, cholesterol, fat, homocysteine, and other pro-inflammatory inducers. Persistent bloodstream overload predisposes us to cancer, stroke, heart attack, senility, painful inflammation and virtually every other age-related ailment.[15-27]

Consuming excess calories shortens our *average* life span by facilitating the development of *age-related diseases* that preclude us from attaining healthy longevity.

Overconsumption of calories has another insidious effect. Many scientists believe that our ***life span*** is largely controlled by ***genes*** that program our bodies to function in a youthful-healthy state. When we consume excess calories, we cause some of these genes to turn against us and contribute to *accelerated* aging and death.

If we reduce the amount and/or effects of ingested calories, the result is a more *favorable* gene expression profile. Such a positive effect helps us to live longer, healthier lives.

Controlling the impact of *ingested* calories becomes an essential component of a science-based longevity program, as excess calorie exposure reduces life span by increasing degenerative disease risk and accelerating aging.

So now that you understand that most of us are eating too much, let's talk about ***practical*** approaches to doing something about it.

Reduce the Number of Calories You *Absorb*

Foods eaten must first be broken down by ***digestive enzymes*** before they are absorbed into our bloodstream. Dietary fats, for instance, are broken down by ***lipase*** enzymes in the stomach and small intestines. Taking 120 mg of the *lipase-inhibiting* drug **orlistat** before meals reduces dietary fat absorption by **30%**.[28]

Green and **black tea polyphenols** also inhibit ***lipase***, thus enabling one to eat more calories without ***absorbing*** all of the fats.[29,30] In fact, when theaflavins from black tea were administered to rats, there was an immediate ***suppression*** of post-meal (postprandial) triglyceride elevation in the blood. The scientists attributed these results to the "***inhibition of pancreatic lipase activity.***"[30]

You might think that a drug like **orlistat** that reduces fat absorption by **30%** would induce significant ***weight loss***. The harsh reality is that study subjects must reduce their dietary fat intake and take orlistat to lose just **20.5 pounds** in one year. These data reveal the frightening degree to which most of us overeat.[31] In other words, even when dietary **fat** absorption

is reduced by 30%, we still take in too many fat calories.

Studies show that in response to consumption of **green** or **black tea polyphenols** (or orlistat), substantial reductions in blood glucose, triglycerides, cholesterol, and other vascular risk factors occur.[32-41] These same changes happen when one reduces calorie intake,[11,12] suggesting that those who continue to eat too much should take steps to block ***digestive enzymes*** that enable excess calories to be absorbed.

Most Western diets contain too many refined ***carbohydrates*** that add to the calorie burden. Ingested ***carbohydrates*** are broken down for ***absorption*** by the enzymes **sucrase**, **amylase**, and **glucosidase**. One may obtain some of the effects of following a "low-carb" diet by taking 50-100 mg of a drug called **acarbose** (glucosidase inhibitor) before each meal.[42,43]

Nutrients that may slow carbohydrate *absorption* include **white kidney bean** (amylase inhibitor),[44-47] **InSea**™ (containing amylase and glucosidase inhibitors from special seaweeds),[48-51] **Irvingia** (amylase inhibitor)[52-55] and **L-arabinose** (sucrase inhibitor).[56] These carbohydrate-blunting ***nutrients*** are all contained in the new **Optimized Irvingia** formula.

Clinical studies confirm significant reductions in glucose, insulin, and triglyceride levels in response to taking **acarbose** alone.[57-59] These effects also occur when one restricts their calorie intake. Clinical studies show dramatic reductions in heart attack rate in response to acarbose.[59] This same kind of vascular disease risk reduction has been observed in experimental studies where food intake is restricted.[60-62] What this indicates is that one may obtain some of the benefits of following a **calorie restricted** diet by inhibiting ***lipase, amylase, glucosidase,*** and ***sucrase*** enzymes.

Consuming soluble dietary fibers before meals slows the absorption of carbohydrates, thus blunting the postprandial insulin spike.[63-66] This is another method of impeding calorie absorption and helping to mimic the effects of calorie restriction.

Improve Your Gene Expression

In response to consuming fewer calories, gene expression favoring youthful vigor is improved. Overeating, on the other hand, induces pathologic gene expression favoring the onset of diseases and accelerated aging.[72,73]

Until recently, the only way of achieving a favorable gene expression profile was through **caloric restriction**. Back in the late 1990s, research funded by the **Life Extension Foundation**® enabled scientists to compare the effects of various compounds (such as resveratrol) to the ***gene expression*** changes that occur during calorie restriction.

These experiments have been used to identify ***nutrients*** that mimic many of the beneficial gene expression changes observed during **calorie restriction**. As you will read in this month's issue, many of the nutrients **Life Extension**® members have been taking for decades, and a few new ones, favorably influence ***gene expression*** changes that occur during calorie restriction.

Once scientists gain total control over the expression of the genes that affect longevity, mankind may achieve biological immortality. Until that time arrives, it is comforting to know that we can now exert at least some control over the expression of genes that influence our health and longevity.

With the discovery of ***novel plant extracts*** that mimic some of the ***gene expression*** changes observed in response to ***calorie restriction***, one may enjoy many of the longevity benefits of undereating by taking the proper supplements daily.

AS WE SEE IT

Moderate Calorie Restriction—It's Not as Difficult as You Think!

For too many people, copious food intake has become an addictive drug. I am so gratified that the nutrient ***Irvingia*** and the drug ***metformin*** keep my appetite under control and enable me to eat a lot less than I used to. There are other nutrients and drugs that effectively curb appetite, but these are all I have needed.

I don't miss gorging on surplus calories. One reason is my regular review of scientific articles that discuss reasons why people develop lethal diseases. For many medical conditions, **overeating** (described as *"excess energy intake"*) is an **independent risk factor** for developing anything from cancer, to vascular disease, to arthritis, and even to senility.[74-79]

I regularly speak with individuals who practice what many would say is *extreme* calorie restriction. The media views these individuals as being so unique that they have been favorably featured on CBS News' *60 Minutes*, the *Oprah Winfrey Show*, and in *Newsweek* magazine.

When I asked two of the most famous calorie restrictors how many calories they consume a day, Paul McGlothin told me he eats around **1,900**, while Meredith Averill's intake is around **1,600** daily. Based on these numbers, I did not think Paul or Meredith are overly depriving themselves. People who go on crash diets, sometimes consuming fewer than 1,000 calories a day, are absolutely miserable, and rapidly regain the weight they lost. Paul and Meredith, on the other hand, say they are activating their "happiness biochemistry" and would never consider eating more food that would compromise their mental state of well being and physical state of health.

Combating Carbohydrate Overload

Older people are more likely to suffer from ***impaired glucose tolerance***, meaning their bodies are unable to properly utilize the sugars they ingest. This condition often manifests clinically as unwanted ***weight gain***, ***metabolic syndrome*** and/or ***type 2 diabetes***.[67,68]

Though people try to adopt healthier eating patterns, their aging bodies let them down by losing cellular sensitivity to ***insulin.*** The result is that even when carbohydrate intake is limited, too much tissue-damaging ***glucose*** remains in the blood and then converts to excess body fat.

Other than those who aggressively practice calorie restriction, most aging people lack the ***metabolic capacity*** to process the carbohydrate calories they ingest each day. Fortunately, there are practical solutions to combating the lethal effects of carbohydrate overload.

We know that by interfering with the activity of certain carbohydrate-digesting ***enzymes,*** blood **glucose** levels ***plummet,*** along with vascular risk factors such as **triglycerides** and **C-reactive protein**.

The American diet is chronically overloaded with ***carbohydrates*** that play a role in virtually every age-related disease. Many people need to inhibit the activity of all three of the following *carbohydrate digestive enzymes* to regain glycemic control:

1) Amylase
2) Glucosidase
3) Sucrase

Fortunately, a low-cost drug called **acarbose** effectively inhibits glucosidase.[42,43] A patented nutrient compound called **InSea™** inhibits amylase and glucosidase,[48-51] **white kidney bean extract**[44-47] and **Irvingia** suppress amylase,[52-55] while a new patented ingredient containing **L-arabinose** suppresses sucrase.[56] These carbohydrate enzyme inhibiting nutrients are available in the new **Optimized Irvingia** formula. Acarbose is available as a prescription drug.

Those who want to be even more aggressive in reducing excess glucose and insulin levels should ask their doctor to prescribe **metformin**.[69-71] This drug not only acts as an insulin sensitizer, but functions via additional mechanisms to reduce blood glucose loads. I personally take **850 mg** of metformin two to three times a day, though most people take only **250-500 mg** three times a day (before meals). Metformin is available as a very low-cost generic drug.

Your objective in combating ***carbohydrate overload*** is to drive fasting glucose levels below **86** mg/dL of blood. I suggest that you have your blood tested within two months of initiating a comprehensive program to make sure the nutrients, drugs, and/or lifestyle changes are working for you.

At the beginning of this article I described the Rhesus monkey study that utilized only *modest* calorie restriction to achieve remarkable longevity benefits. From everything we know today, it would appear that many of you could migrate towards a routine of at least ***modest*** calorie reduction and feel better doing so.

So much of our appetite craving is psychological. I was at a business dinner a while back and ordered an 8-ounce filet mignon. When I finished, I thought that I should have ordered a larger portion. Several nights later, I ordered a 12-ounce size at the same restaurant and felt uncomfortably full. This made me realize how we "think" we need large portions of food to be satiated, when we really don't. (I rarely eat beef by the way, usually only small portions a few times a month.)

It is hard for me to dine with regular people and not be appalled by the enormous amount of calories they ingest at a single meal. I know I feel better at the meal's conclusion, while these individuals are bloated from gorging themselves with so many excess calories.

Once one accepts the fact that surplus food ingestion is ***poison*** to the body, it's a lot easier to practice at least a ***moderate*** degree of caloric cutback.

Calorie Restriction without Hunger!

In a study published in the ***Journal of the American Medical Association (JAMA)***, the effects of caloric restriction were measured in a group of overweight adults over a six-month period.[80]

The findings showed that in response to reduced food intake, fasting ***insulin*** levels plummeted. Reducing *excess* insulin is important because "insulin overload" increases the risk of heart disease, cancer, blindness, stroke, Alzheimer's, and other age-related diseases.[81-84]

The most exciting finding of the JAMA study was the amount of weight lost in the groups that restricted their calorie intake. The ***moderate*** caloric-restriction group experienced a **24%** reduction in body fat mass, while the ***very low***-calorie group achieved a **32%** reduction in fat mass.[80] You may wonder if you can replicate these findings, since hunger is the factor that precludes most people from staying on a low-calorie diet.

Fortunately, a plant extract discovered in Europe called **pinolenic acid** has been shown to suppress appetite without causing any stimulatory effect. This plant extract attacks the underlying mechanisms involved in hunger so effectively that study participants reduced their food intake by **36%**.[85]

Pinolenic acid is a polyunsaturated fatty acid derived from pine nuts. It stimulates the secretion of the hunger suppressing hormones ***cholecystokinin*** (CCK)[86] and ***glucagon-like peptide-1*** (GLP-1). The results from human clinical studies using pinolenic acid reveal a reduced "desire to eat" along with early satiety.[85]

Those seeking to curb their appetite to reduce daily calorie intake should take **three capsules** of a pinolenic acid-containing supplement called **Natural Appetite Control** before most meals.

Practical Options to Emulate Calorie Restriction

The scientific data solidly document that surplus calorie intake shortens your life span.[87,88] Everyone responds differently when reducing food intake, but most people can at least modestly decrease the number of calories they consume each day.

Most individuals, however, will still eat more than they should. Fortunately, there are multiple ways to inhibit the activity of *digestive enzymes*, and thus spare most of the body from the lethal effects of excess calorie absorption. An aggressive three-month plan to reduce the number of absorbed calories involves taking the following nutrients and drugs before most meals:

- **Orlistat** 120 mg (Inhibits *lipase* enzyme*[28,31,35,40,41])
- **Acarbose** 50-100 mg (Inhibits *alpha-glucosidase* enzyme[42,43,57,59])
- **Optimized Irvingia** 2 caps (Inhibits *amylase*, *alpha-glucosidase,* and *sucrase* enzymes, functions by additional mechanisms to facilitate calorie reduction[29,44,48,52])

* **Black tea theaflavins** 300-350 mg (Also inhibit *lipase*, but not as potently as orlistat[30])

For some individuals, drugs like **orlistat** that inhibit *lipase* will cause gastrointestinal discomfort after eating too much. One objective of suggesting a 90-day trial using this drug is to forcibly educate you about healthier lifelong dietary patterns. For example, if you continue to consume excess **fat** calories and take orlistat, the result will be lots of lipid-laden feces in the toilet after a bowel movement. Understanding that

this fat appearing in your toilet was destined to be absorbed into your bloodstream (which could shorten your life span) may motivate you to eat less. Likewise, digestive discomfort associated with excess carbohydrate intake in the presence of *alpha-glucosidase*, *amylase,* and *sucrase* inhibitors may entice you to reduce intake of dangerous simple carbohydrates. In case you have not figured this out yet, a side benefit to doing all this is a loss of surplus body fat.

To mimic some of the favorable gene expression changes that occur in response to *calorie restriction*, a new nutrient formula called **Calorie Restriction Mimetic Formula** has been developed that consists of the following nutrients in the daily dose:

Black tea extract (*Camellia sinensis*)	**300 mg**
Quercetin	**150 mg**
***Trans*-Pterostilbene**	**3 mg**
***Trans*-Resveratrol**	**250 mg**
Oligomeric proanthocyanidins from grape seeds	**50 mg**

These and a number of other nutrients that health-conscious people already take, such as high dose **vitamin D3** and **fish oil,** have been shown to favorably alter gene expression.[89-101]

We Live in an Exciting Era!

Scientists continue to validate the health benefits of nutrients that **Life Extension** members supplement with every day. Only recently, however, have these favorable effects been linked to the ability of these nutrients to mimic ***gene expression*** changes that occur in response to **calorie restriction**.[72, 101-105]

An explosive volume of newly published research indicates that aging humans can exert tremendous degrees of ***control*** as to whether they maintain ***youthful*** or ***senescent*** gene expression patterns in their cellular DNA.[106-108]

Some youthful gene expression can be maintained by reducing intake of calories to a level **20-40%** lower than is typical, while still obtaining all the necessary nutrients and vitamins.[13,109-113] The most recent study indicates even a ***modest*** calorie restricted diet produces **huge reductions** in degenerative disease in monkeys.[13]

Those who are unable to sufficiently cut their food intake can still inhibit the ***absorption*** of ingested calories by taking compounds (such as **orlistat**, **acarbose,** and/or the new **Optimized Irvingia** formula) that block *digestive enzyme* activity.

Finally, and most exciting of all, there are nutrients (such as **pterostilbene** and **resveratrol**) that have been shown to mimic many of the favorable effects induced by **calorie restriction**.[102-104,114-116] These low-cost nutrients provide humans with an unprecedented power to determine whether their cellular DNA expresses ***youth-promoting*** or ***senescent-inducing*** genes. Humans have never enjoyed so much control over the rate that they age!

Advanced Nutritional Formulas at the Year's Lowest Prices

For more than two decades, **Life Extension** members have taken advantage of the annual **Super Sale** to acquire their favorite nutrient formulations.

Life Extension **upgrades** its formulas almost every year to provide more *effective* health-sustaining nutrients. In the last few months, we introduced a new form of **ubiquinol CoQ10** that is significantly better absorbed into

the cell's mitochondria, standardized **apigenin** to maintain healthy cell division, and a novel plant compound that protects against persistent **inflammatory joint** conditions.

In this month's issue, you'll learn about nutrients that help arouse youthful ***gene expression*** changes, along with a new ***carbohydrate blocker*** (sucrase) that diminishes the amount of unwanted glucose absorbed into your bloodstream.

Every time you purchase a **Life Extension**® product, you contribute to research aimed at radically extending the healthy human lifespan. Last year, the **Life Extension Foundation** funded a record number of scientific projects.

During the traditional winter Super Sale, all **Life Extension** formulas are discounted so that members can obtain up-to-date versions at the **lowest prices** of the year.

Until February 1, 2010, members take advantage of **Super Sale** discounts to stock up on the world's most *avant-garde* life-extending formulations.

For longer life,

William Faloon

Lethal Business and Family Rituals

Many of you were alive when the Surgeon General proclaimed the lethal effects of cigarette smoking in **1964**. I recall smokers back then saying that they "enjoyed" their cigarettes too much to ever quit. Most of these individuals did eventually quit, after perishing from agonizing smoking-induced illnesses.

Americans today ingest oversized breakfasts, lunches, dinners, and snacks as substitutes for tobacco and other addictive substances, sometimes as business or family rituals. To cure drug addiction, one important step is to remove other drug addicts from one's environment. With food addiction, this is often *impossible* as business associates and family members provide constant ***temptations*** to help destroy your health and longevity by overeating.

I tell those who want to discuss a business matter with me over a meal that I don't hold discussions over a meal or in the presence of food, unless it happens to be at a regularly scheduled mealtime for me. I do not hesitate to accuse well wishing individuals that they are seeking to shorten my life span by inviting me to consume food I would not normally eat.

I realize that many of you may find it difficult to practice moderate calorie restriction. That is why we provide you the option of blocking the absorption of surplus calories by inhibiting digestive enzymes AND reducing the lethal gene expression changes caused by overeating, using nutrients that have been shown to *mimic* some of the gene expression effects of calorie restriction.

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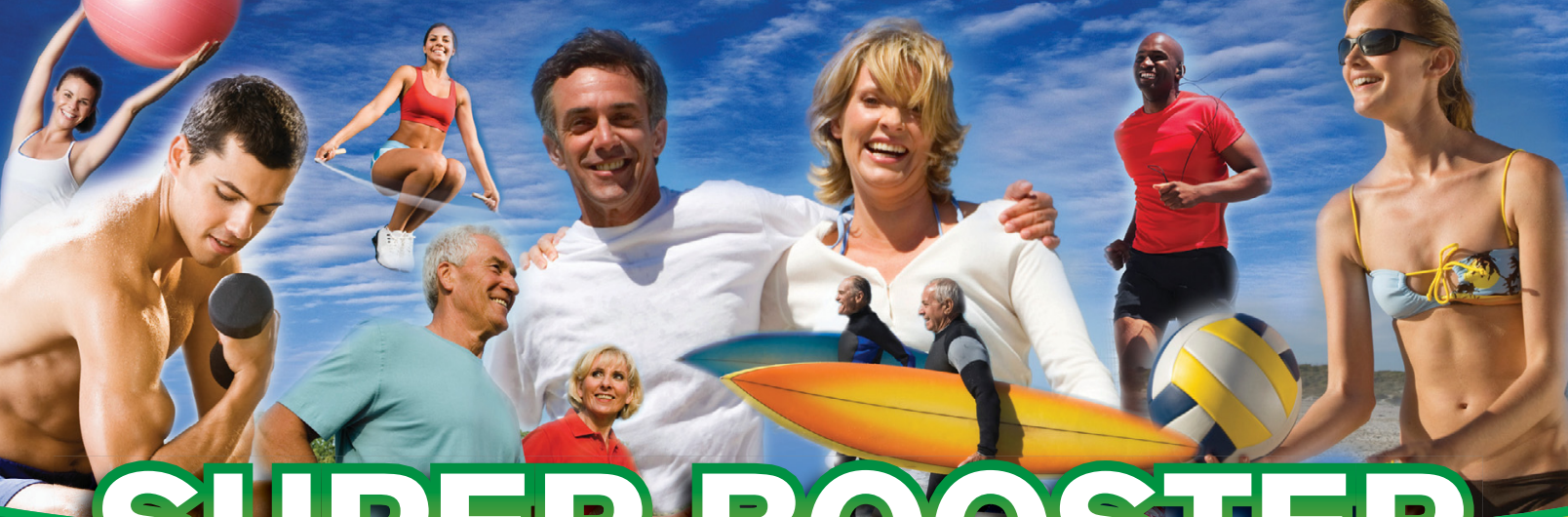

SUPER BOOSTER

with the most effective form of Vitamin K2, Gamma Tocopherol, Ginkgo, and much more!

Despite abundant scientific validation, many people still do not take vital nutrients because they don't want to swallow so many pills. This problem has been solved with a one-per-day softgel that includes multiple health-promoting nutrients in just one supplement. The **Life Extension® Super Booster** contains critical oil-based nutrients that cannot be incorporated into dry-powder based formulas like the **Life Extension Mix™**.

The **Super Booster** has been upgraded to provide higher doses of the most effective form of ***vitamin K*** known as **menaquinone-7**. Just one **Super Booster** softgel provides:

→Gamma Tocopherol If one consumes only alpha tocopherol, the critically important gamma tocopherol is displaced from cells within the body. While *alpha tocopherol* vitamin E inhibits *lipid peroxidation*, the *gamma tocopherol* form also quenches the dangerous *peroxynitrite* free radical. It is especially important for those who take vitamin E supplements to make sure they consume at least 200 mg a day of gamma tocopherol.

→Sesame Lignans Sesame lignans augment the antioxidant effects of both alpha- and gamma-tocopherol. In a human study conducted at Life Extension, gamma tocopherol plus sesame lignans was 25% more effective in suppressing measurements of free-radical damage than gamma tocopherol and tocotrienols.

→Vitamin K2 **Vitamin K1** from dietary plant sources is poorly absorbed and only a small fraction gets into the bloodstream. **Vitamin K2** is absorbed much more efficiently. Scientific studies show **K2** provides superior benefits for the bones, arteries, and other tissues. The **MK-4** form of vitamin K2 is the most rapidly absorbed and is now routinely used in Japan to maintain healthy bone density. **MK-4,** however, only remains active in the blood for a few hours. The **MK-7** form of K2, on the other hand, remains bioavailable to the human body over a sustained **24-hour period**. Super Booster now provides more **MK-7** than ever before — to keep calcium in the bone and out of the arteries.

Just one softgel of Super Booster supplies:

Gamma tocopherol	230 mg
Ginkgo extract	120 mg
Chlorophyllin	100 mg
Vitamin K2 (as menaquinone-7)	100 mcg
Vitamin K2 (as menaquinone-4)	1000 mcg
Vitamin K1	1000 mcg
Sesame lignans	20 mg
Lycopene	10 mg
Lutein	2 mg
Se-methylselenocysteine	67 mcg
Selenomethionine	67 mcg
Sodium selenite	67 mcg
Vitamin B12	300 mcg
Vitamin C	90 mg
Ascorbyl palmitate	50 mg
Zinc	10 mg
Mixed tocopherols	130 mg

→Lycopene Evidence suggests that people who ingest the carotenoid lycopene enjoy healthier prostate function. Lycopene also helps guard against LDL oxidation.

→Lutein The carotenoid lutein helps maintain healthy cell division, supports the macula of the eye, and protects the endothelial lining of the arteries.

→Ginkgo Hundreds of studies substantiate the multifaceted effects of *ginkgo biloba* in promoting healthy circulatory and neurological function.

→Chlorophyllin Scientific studies indicate that chlorophyllin may protect against environmentally induced damage to DNA.

→Selenium Some scientific evidence suggests that consumption of selenium may reduce the risk of certain forms of cancer. However, the FDA has determined that this evidence is limited and not conclusive. Selenium's effects in boosting glutathione are well-established.

A bottle of 60 Super Booster softgels retails for $42. If a member buys four bottles during **Super Sale**, the price is reduced to just **$25.65** per bottle.

The **Super Booster** saves consumers **huge dollars** by combining a wide variety of costly nutrients into one daily softgel. If you add up the price of the individual ingredients contained in the **Super Booster**, you would spend **two to three times more** for this potency if taken separately.

Item #01380

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

Caution: Those individuals currently taking anticoagulants such as Coumadin® (warfarin) should consult their personal physician before taking supplemental vitamin K.

Lyc-O-Mato® is a registered trademark of LycoRed Natural Products Limited.

3 WAYS TO BENEFIT FROM CALORIE RESTRICTION

1 EAT LESS

Controlled studies in primates reveal that *modest* calorie reduction (only **30%**) yields a **huge** reduction in the risk of issues associated with aging. For example, a recent study in *Science* showed that modest calorie restriction in primates provided a **50%** improvement in cardiovascular support.[1] Studies on humans show that a calorie reduction of only **20%** dramatically improves biomarkers associated with longevity.[2-4]

For those who find it difficult to ingest **20-30%** fewer calories, consider one or more of the following natural approaches:

1. **Pinolenic acid** is a polyunsaturated fatty acid derived from pine nuts. It stimulates secretion of the hunger-suppressing hormones ***cholecystokinin*** (CCK) and ***glucagon-like peptide-1*** (GLP-1). Human studies showed that participants taking pinolenic acid reduced their food intake by **36%**[5]...more than enough to accomplish *modest* calorie restriction. Pinolenic acid is the active ingredient in a supplement called **Natural Appetite Control**. Those seeking to reduce daily calorie intake should take **three** capsules of **Natural Appetite Control** before most meals.

Natural Appetite Control was developed for adults seeking to lower their calorie intake and maintain a successful, long-term weight management program. Each softgel of **Natural Appetite Control** provides **1,000 mg** of standardized extract of Korean pine nuts containing the highest concentration of pinolenic acid found in any pine nut species, which stimulate the release of two of the body's most powerful hunger-suppressing hormones.

Item #00891

A bottle of 90 softgels of **Natural Appetite Control** retails for $28. If a member buys four bottles during **Super Sale,** the price is reduced to **$17.01** per bottle. Item # 00891

2. Ingest **six grams** of **soluble fiber** before each meal. Studies show that pre-meal fiber intake helps induce early satiety. One or more of the following low-cost fiber supplements can be used:

Fiber Food is a natural bulk-producing soluble fiber consisting of psyllium, guar gum, and apple pectin that is available both in capsule and powder forms.

A bottle of 200 capsules of **Fiber Food Capsules** retails for $15. If a member buys four bottles during **Super Sale**, the price is reduced to **$8.44** per bottle. Item# 00229

Item #00229

A bottle of 300 grams of **Fiber Food Powder** retails for $15. If a member buys four bottles during **Super Sale,** the price is reduced to **$8.44** per bottle. Item#00228

Item #00228

CocoaGold™ with Beta-Glucan

This combination powder provides *standardized* **cocoa extract** plus oat **beta-glucans**. The **CocoaGold™** polyphenols support healthy insulin sensitivity, while **beta-glucan** fiber delays ***carbohydrate*** absorption. **Beta-glucans** have a slower and more sustained effect on blood glucose and energy.

Item #01285

A jar of 180 grams of **CocoaGold™ with Beta-Glucan** retails for $20. If a member buys four jars during **Super Sale,** the price is reduced to **$12.15** per jar. Item# 01285

To order the new
CALORIE RESTRICTION MIMETIC FORMULA
or any of the other supplements that help protect against chronically bloated bloodstreams, call **1-800-544-4440** or visit **www.LifeExtension.com**

NOTE: Supplements should be taken in conjunction with a healthy diet and regular exercise program. Results may vary.

2

REDUCE THE EFFECT OF EXCESS CALORIES

Famine prevailed throughout most of mankind's evolutionary history. Those who efficiently absorbed and stored scarce calories are our direct ancestors. With abundant quantities of calorie-dense foods, it is no wonder that problems associated with excess food intake are so prevalent in modern-day societies.

Excess consumption of dietary fat and carbohydrate results in rapid spikes in levels of fat (triglyceride) and sugar (glucose) in the blood. Regrettably, many people are not aware of the age-accelerating consequences of **postprandial overload**. Elevated levels of post-meal blood fat (triglycerides) and blood sugar (glucose) *accelerate* the aging process in our cardiovascular system.

Ingested foods are broken down by *digestive enzymes* before they are *absorbed* into the bloodstream.

Green and **black tea polyphenols** target the fat-digesting enzyme *lipase*. ***Theaflavins*** from **tea polyphenols** have been shown in experimental studies to help reduce the post-meal impact of ingested fat calories in a dose-dependent manner.[6]

Most of us eat too many refined *carbohydrates* that add to the calorie burden. The enzymes *amylase, glucosidase,* and *sucrase* break down ingested carbohydrates to smaller starch and sugar particles. Nutrients such as **white kidney bean** (targets amylase activity),[7-8] **InSea™** (targets amylase and glucosidase activity), [9] **Irvingia** (targets amylase activity)[10-11] and **L-arabinose** (targets sucrase activity)[12] have been shown in published scientific studies to help reduce the metabolic impact of ingested carbohydrate calories from dietary starch and/ or sugar. These *nutrients* are all contained in the new **Optimized Irvingia** formula.

Optimized Irvingia with Phase 3™ Calorie Control Complex contains *Green Tea Phytosome Extract* to slow down the breakdown and absorption of dietary fat, **Phase 2® White Kidney Bean** extract to moderate *alpha-amylase* activity, **InSea2™** seaweed extract, which can help support a *slowing* of the rate of carbohydrate absorption from the intestines, ***Irvingia gabonensis*** extract for *leptin sensitivity* support, and **Phase 3™ Sucrase Modulator** to reduce the number of absorbed calories from sugar. Directions are to take two capsules before the two heaviest meals of the day. A bottle of **120** capsules of **Optimized Irvingia with Phase 3™ Calorie Control Complex** retails for $78. If a member buys four bottles during **Super Sale**, the price is reduced to **$48.60 per bottle.** Item# 01492

Item #01492

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3

CONTROL YOUR GENE EXPRESSION

Restricting the amount of calories allowed into your blood stream *increases* healthy life span via several mechanisms. Cardiovascular support can be maintained by blunting the post-meal surge of glucose, insulin, triglycerides, and inflammatory-inducing compounds that engorge the bloodstream following eating binges.

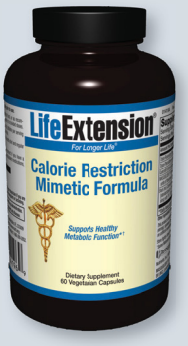
Scientists, however, are focused on an even more important mechanism to explain how *calorie restriction* so radically extends life span. They have uncovered favorable alterations in ***gene expression*** in response to reduced calorie intake. It turns out that caloric restriction slows aging by ***activating*** beneficial "youth" genes while disabling detrimental "senescence" genes.

The incredible news is that a select group of nutrients has been discovered that trigger many of the favorable mechanisms (including more youthful ***gene expression*** patterns) as **caloric restriction**.

Among the most promising of these **caloric restriction mimics** and enhancers are **resveratrol**, **pterostilbene**, **quercetin**, and **grape seed polyphenols**, along with **black tea extract**. These nutrients have been shown to generate many of the same effects in the body as caloric restriction, without significant dietary modification.[13-20] In particular, they help "mimic" caloric restriction's favorable impact on **genes** that influence the aging process.[13-20]

Genes have the capacity to directly affect life span by regulating a broad spectrum of aging factors. Calorie restriction exerts a beneficial effect on the *activity* of **gene expression**, supporting healthy cellular function through numerous physiological pathways.[21] Compounds that mimic caloric restriction bring about favorable changes in *gene expression* and improve the primary *biomarkers* of aging.[22]

Those taking high-dose vitamin D, along with coenzyme Q10 and fish oil are already favorably altering many of their gene expression patterns. A new **Calorie Restriction Mimetic Formula** includes **resveratrol, pterostilbene, quercetin**, **grape seed polyphenols**, and **black tea extract** to provide even broader-spectrum gene expression support in one nutritional compound. Two capsules of the new **Calorie Restriction Mimetic Formula** provides:



Item #01419

***Trans*-Resveratrol**	**250 mg**
***Trans*-Pterostilbene**	**3 mg**
Quercetin	**150 mg**
Black tea extract	**300 mg**
Grape seed polyphenols	**50 mg**

A bottle containing 60 vegetarian capsules of the new **Calorie Restriction Mimetic Formula** retails for $36. If a member buys four bottles during the **Super Sale**, the cost per bottle is reduced to **$22.28**. Item# 01419

While the new **Calorie Restriction Mimetic Formula** can enable aging individuals to *simulate* many of the beneficial ***gene expression*** effects associated with caloric restriction, ***Life Extension*** members are still urged to reduce their pathologic calorie burden by following steps #1 and #2 as outlined herein.

Fish Oil Blend with Sesame Lignans and a MORE Concentrated Olive Fruit Extract

A Comprehensive Essential Fatty Acid Formula

An abundance of scientific research substantiates the wide-ranging health benefits, including promoting a healthy heart, of ***omega-3 fatty acids*** in fish oil and ***monounsaturated fatty acids-polyphenols*** in olive fruit.[1-9]

SUPER OMEGA-3 from Life Extension® uses a patented EPA/DHA extraction process that results in a pure, stable and easy-to-tolerate **fish oil extract**.

While most fish oil is distilled to decrease contaminants such as mercury and PCBs, the **Pure +™** fish oil used in **Super Omega-3** is produced with a patented method that purifies the oil with a highly advanced *distillation process* to reduce pollutants to virtually undetectable levels. The result is an improved **fish oil** that *exceeds* the standards set by international rating agencies.

Sesame Lignans Enhance Fish Oil's *In Vivo* Effects

The *unstable* nature of fatty acids like fish oil limits their biological efficacy in the body. Scientific studies show that when **sesame lignans** are supplemented with fish oil, the beneficial effects are augmented.[10]

Sesame lignans help guard against **lipid peroxidation**, thereby extending the stability of **DHA** in the body. These **lignans** also direct fatty acids toward pathways which can help with inflammatory reactions. **Super Omega-3** provides standardized **sesame lignans** to enhance the overall benefits of the improved EPA/DHA fish oil blend.

New Higher Potency Standardized Olive Fruit

To emulate a Mediterranean diet, **Super Omega-3** provides a standardized **olive fruit extract** to deliver the polyphenol ***hydroxytyrosol***, a powerful antioxidant that protects normal **LDL** from oxidation and counters dangerous free radicals.[11-14] Research shows that a combination of olive oil and fish oil supplements helps with inflammation better than a placebo or fish oil alone.[15] Therefore, Super Omega-3 provides the equivalent polyphenol content of **6 ounces of Extra Virgin Olive Oil**.

Super Omega-3 provides a new, higher concentration **olive fruit extract** standardized for ***hydroxytyrosol***, ***tyrosol*** and ***oleuropein*** polyphenols. Research shows the value of **oleuropein** in favorably altering gene expression, delaying senescence in specialized skin cells, and helping maintain normal platelet activation.

Life Extension's **Super Omega-3** is a fish oil concentrate that contains a *full-spectrum blend* of *synergistic* nutrients, providing a product of the utmost quality to produce optimal effects.

Super Omega-3 is certified to contain no detectable levels of mercury, arsenic, lead, cadmium, and other toxic metals by the International Fish Oil Standards (IFOS™). This product meets or exceeds IFOS™ standards for PCBs, dioxins, and other contaminants, and thus has received its highest 5-star rating.

IFOS™ certification mark is a registered trademark of Nutrasource Diagnostics, Inc. These products have been tested to the quality and purity standards of the IFOS™ program conducted at Nutrasource Diagnostics, Inc.

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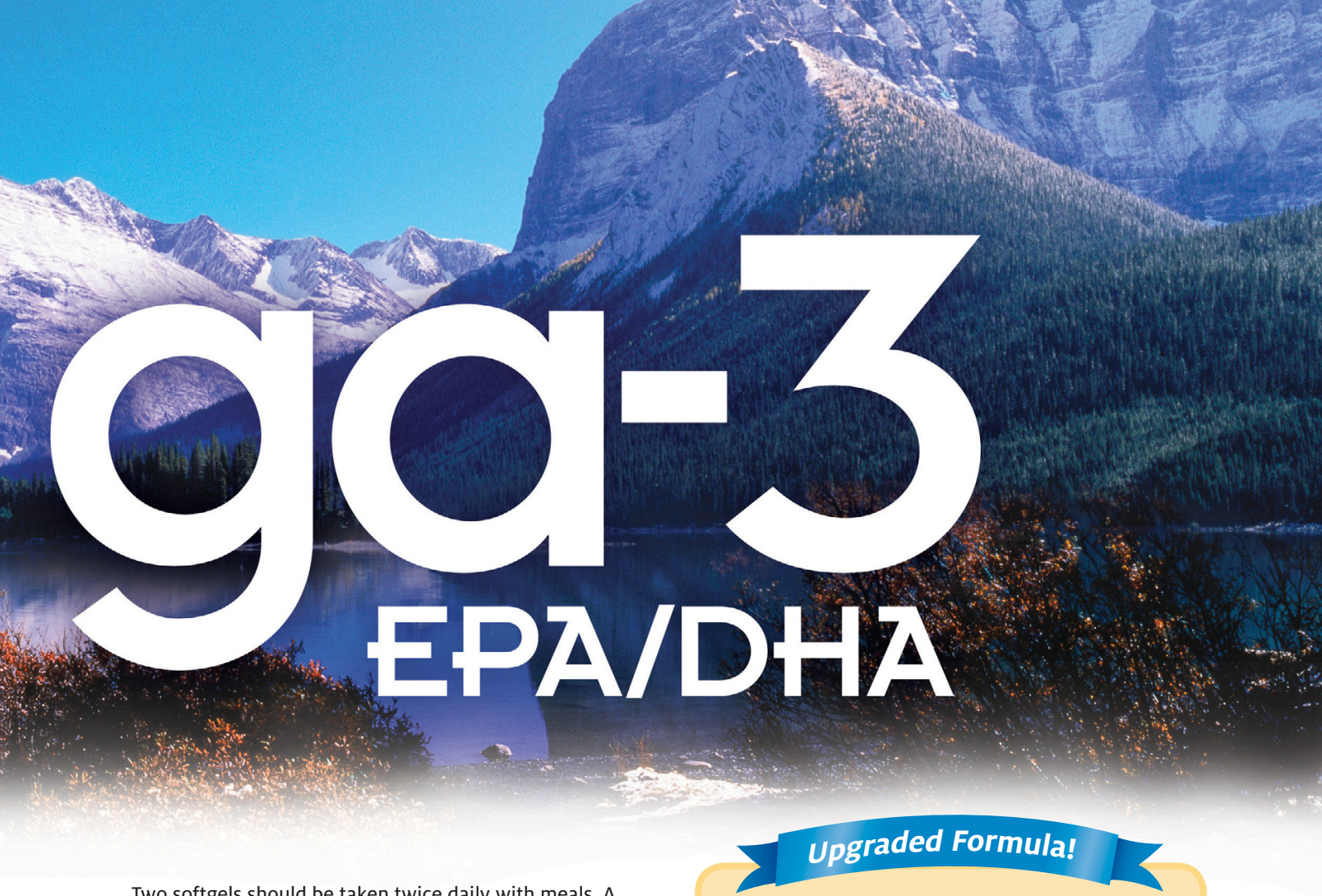

Two softgels should be taken twice daily with meals. A bottle of 120 softgels of **SUPER OMEGA-3 EPA/DHA with Sesame Lignans and Olive Fruit Extract** retails for $32. If a member buys four bottles during **Super Sale**, the price is reduced to **$18.90 per bottle**. If **10 bottles** are purchased during **Super Sale**, the price per bottle is reduced to only **$16.81**. Item# 01482

For those with a sensitive stomach, Super Omega-3 is now also available with enteric coating and retails for $34. If a member buys four bottles during **Super Sale**, the price is reduced to **$20.93 per bottle**. If **10 bottles** are purchased during **Super Sale**, the price per bottle is reduced to only **$18.90**. Item# 01484

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

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

Important note: If you are taking anticoagulant drugs, use this product only under the supervision of your physician. Blood tests that measure clotting can be used to ensure these nutrients are not reducing the clotting factors in your blood to abnormal levels.

Upgraded Formula!

Just four softgels of **SUPER OMEGA-3 EPA/DHA with Sesame Lignans & Olive Fruit Extract** provide:

EPA Pure+™ Extract (eicosapentaenoic acid)	1400 mg
DHA Pure+™ Extract (docosahexaenoic acid)	1000 mg
Olive Fruit Extract [standardized to 1.5% hydroxytyrosol (9 mg), 0.7% oleuropein (4.2 mg), 0.5% verbascoside (3 mg) and 0.23% tyrosol (1.4 mg)]	600 mg
Sesame seed lignan extract	20 mg

Item #01484

Item #01482

POWERFUL PROTECTION AGAINST LDL Oxidation and Proinflammatory Cytokines

An increasing number of scientists recognize the critical need to protect the arterial wall against low-density lipoprotein (LDL) **oxidation** and **inflammatory** insults.

Research has shown that unique extracts present in black tea called **theaflavins** can have multiple applications for arterial health.[1]

New **Theaflavin Standardized Extract** contains a number of beneficial flavonoids found naturally in tea leaves that help support levels of cholesterol that are already within the normal range.[1]

Theaflavins have been shown in human studies to protect against ***LDL oxidation*** and favorably affect ***endothelial function***,[2] thus helping to maintain healthy circulation.

Scientists have also found that black tea flavonoids possess strong *antioxidant* properties, which can help mitigate oxidative damage to cells and tissues from free radicals.[3] In addition, theaflavins have been found to be helpful in regulating key *inflammatory* mediators in the body, thus helping to preserve cellular integrity.[4,5]

A bottle of 30 350-mg vegetarian capsules of **Theaflavin Standardized Extract** retails for $18. If a member buys four bottles during **Super Sale**, the cost is only **$10.80 per bottle**.

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This product contains a black tea extract which is licensed from Applied Food Sciences, Inc. and is protected by US Patent Nos. 6,811,799 and 6,602,527.

Item #01304

To order **Theaflavin Standardized Extract Capsules**, call **1-800-544-4440** or visit **www.lifeextension.com**

IN THE NEWS

Obesity Responsible for 100,000 Cancer Cases Annually

A recent report from the *American Institute of Cancer Research* (AICR) states that excess body fat is now seen as a major cause of cancer.* Researchers at AICR studied seven cancers known to have links with obesity and calculated the actual case counts that were likely to have been caused by obesity. The numbers are staggering, including 49% of endometrial cancers, 35% of esophageal cancers, 28% of pancreatic cancers, 24% of kidney cancers, 21% of gallbladder cancers, 17% of breast cancers, and 9% of colorectal cancers.

Laurence Kolonel, MD, PhD, Deputy Director of the Cancer Research Center of Hawaii and AICR/WCRF expert panel member, presented the new preventability estimates and reviewed the evidence linking obesity to cancer risk. "We now know that carrying excess body fat plays a central role in many of the most common cancers," he said. "And it's clearer than ever that obesity's impact is felt before, during and after cancer—it increases risk, makes treatment more difficult and shortens survival."

Recent findings also suggest that excess body fat lowers immune function and increases oxidative stress, which can lead to DNA damage.

—Jon Finkel

* Available at: http://www.aicr.org/site/News2?abbr=pr_&page=NewsArticle&id=17333&news_iv_ctrl=1102. Accessed December 1, 2009.

Elevated Homocysteine Associated with Doubling of Women's Alzheimer's Disease Risk

A thesis composed by Dr. Dimitri Zylberstein at the University of Gothenburg, Sweden links high levels of homocysteine in women with twice the risk of developing Alzheimer's disease compared to those with low levels.*

Dr. Zylberstein reports the results of a study involving participants in the Prospective Population Study of Women in Gothenburg. The women were followed for 35 years, making it the longest study to evaluate the relationship between homocysteine level and dementia.

"Alzheimer's disease was more than twice as common among the women with the highest levels of homocysteine than among those with the lowest, and the risk for any kind of dementia was 70% higher," revealed Dr. Zylberstein.

Although elevated homocysteine can be the result of vitamin B12 and folate deficiencies, it can also occur when vitamin status is considered normal according to current standards.

Editor's note: Homocysteine can be reduced by taking folic acid, vitamin B12, and vitamin B6 supplements. Those with stubbornly high homocysteine can sometimes lower it by taking **1,000-3,000** mg of **trimethylglycine (TMG)** each day. Those with intractably high homocysteine should take the metabolically active form of folic called ***5-methyltetrahydrofolate*** in the daily dose of **2,000** mcg to over **10,000** mcg. Optimal homocysteine blood levels are below **7-8** µmol/L.

–Dayna Dye

* Dr. Dimitri Zylberstein thesis presented at the University of Gothenburg.

IN THE NEWS

Long-term High Dose Vitamin D Well Tolerated

A letter published in the *Archives of Internal Medicine* revealed that treatment with 50,000 IU of vitamin D per week was safe over an 8-week period, and could also be used every other week as maintenance.*

The researchers reviewed the records of 86 patients treated for vitamin D insufficiency. Forty-one subjects received 50,000 IU vitamin D2 weekly for 8 weeks followed by a maintenance dose of 50,000 IU every other week for up to 6 years. The remainder of the patients received every-other-week maintenance therapy.

For patients who received the starting therapy, 25-hydroxyvitamin D levels rose to 37.2 ng/mL after 8 weeks. Maintenance therapy increased these levels to 46.9 ng/mL. For those who received only maintenance therapy, vitamin D levels increased to 47 ng/mL.

"While treating and preventing vitamin D deficiency, these large doses of vitamin D2 do not lead to vitamin D toxicity," researcher Michael Holick concluded.

Editor's note: It is interesting to see that even when these high doses of vitamin D are used, the average study subject did not attain optimal vitamin D blood levels of greater than **50 ng/mL**. This further validates the importance for most people to take at least **5,000 IU** of vitamin D3 each day for 60-90 days and then have their blood tested for **25-hydroxyvitamin D**. Dosage adjustment can then be made to achieve optimal **25-hydroxyvitamin D** status, which based upon the current scientific literature appears to be **50-80 ng/mL**.

–Dayna Dye

* *Arch Int Med*. 2009 Oct 26;169(19).

Vitamin E Beats Drug Treatment for Liver Disease

At the 60th Annual Meeting of the American Association for the Study of Liver Diseases, Arun Sanyal, MD of Virginia Commonwealth University reported the results of a trial which found that vitamin E was more successful than the antidiabetic drug pioglitazone at treating non-alcoholic steatohepatitis (NASH).* Non-alcoholic steatohepatitis is a progressive liver disease associated with fatty liver, insulin resistance, and obesity.

The study included 247 patients whose liver biopsies confirmed NASH within six months of the trial. Participants were randomized to receive 30 mg per day of pioglitazone, 800 IU per day vitamin E, or a placebo for 96 weeks.

While disease activity scores improved in 19% of the placebo patients, 34% of those who received pioglitazone and 43% of those who received vitamin E had improved scores.

The trial is the first large study to demonstrate a benefit for vitamin E in non-alcoholic steatohepatitis treatment.

Editor's note: Non-alcoholic steatohepatitis (fatty liver disease) can be effectively treated by losing weight and suppressing chronic inflammatory reactions in the body. The best nutrient to consider is **polyenylphosphatidylcholine** in the dose of **1,800** to **2,700** mg a day.

—Dayna Dye

* 60th Annual Meeting of the American Association for the Study of Liver Diseases.

Green Tea May Help Protect Against Oral Cancer

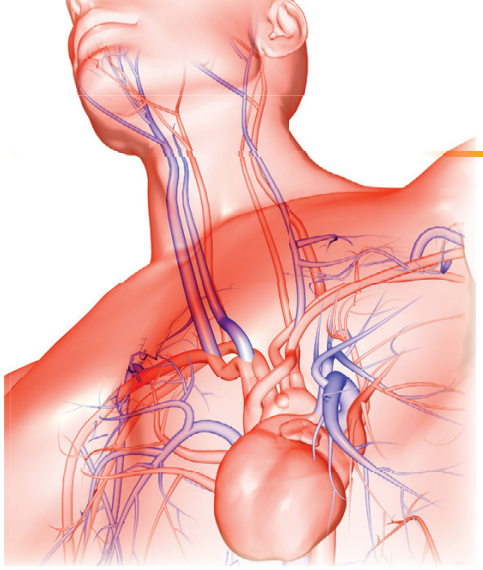
An article published in a recent issue of *Cancer Prevention Research* describes a protective effect for green tea against the progression of oral lesions that are at high risk of developing into cancer.*

Forty-one patients with oral premalignant lesions were randomized to receive one of three concentrations of a green tea extract or a placebo 3 times daily for 12 weeks. Among participants who received the highest concentrations of tea extract, 58.8% showed partial clinical responses, defined as improvement in degree of maturation of epithelium with no new lesions or progression, while complete or partial responses were observed in 36.4% of those who received the lowest extract dose and 18.2% of those who received the placebo.

The trial is the first to test the effects of green tea as a cancer preventive among those with premalignant oral lesions.

–Dayna Dye

* *Cancer Prev Res*. 2009 Nov; 2(11):919-21.



Heart Disease, Stroke, Heart Failure, and Premature Death All Linked to Insufficient Vitamin D Levels

The results of a study presented at the American Heart Association's Scientific Conference in Orlando confirmed a strong association between the presence of reduced vitamin D levels and a greater risk of coronary artery disease, stroke, heart failure, and dying over follow-up in men and women 50 years of age and older.*

Brent Muhlestein, MD and his colleagues followed 27,686 subjects with no history of heart disease for an average of 1.2 years. Those with very low vitamin D levels were 45% likelier to develop heart disease, twice as likely to develop heart failure, 78% more likely to experience a stroke, and 77% likelier to die than those with normal levels.

"This was a unique study because the association between vitamin D deficiency and cardiovascular disease has not been well-established," Dr. Muhlestein commented.

—Dayna Dye

* American Heart Association's Scientific Conference in Orlando.

Vitamin Treatment Improves ED in Men with Elevated Homocysteine

An article published online in the *Journal of Sexual Medicine* describes research conducted at the University of Rome which found that it may be necessary to reduce homocysteine before treatment for erectile dysfunction (ED) can be effective.*

The study included 75 men with erectile dysfunction who were treated with sildenafil citrate (Viagra®) for 2 months. Nonresponders to the drug were treated with 600 mg vitamin B6 per week and 15 mg folic acid per day along with sildenafil for 6 weeks.

All of the 18 patients who initially failed to respond to drug treatment had high levels of homocysteine and low folic acid levels. Subsequent to the 6 week course of vitamin therapy, all but two participants experienced improvement in ED.

The association of hyperhomocysteinemia with vascular disease supports the mechanism for homocysteine-reducing agents in improving ED, which is caused primarily by the same factors that affect the coronary arteries.

–Dayna Dye

* *J Sex Med.* 2009 Aug 17.

Omega-3 Fatty Acids Boost Glucosamine's Arthritis Benefit

In a recent issue of the journal *Advances in Therapy*, German researchers report that the addition of omega-3 polyunsaturated fatty acids to glucosamine sulfate resulted in improved alleviation of symptoms compared to glucosamine alone.*

The researchers enrolled 177 men and women moderate-to-severe hip or knee osteoarthritis. Participants were randomized to receive glucosamine sulfate with or without the omega-3 fatty acids EPA and DHA for 26 weeks.

When an at least 80% reduction in pain was evaluated, 44% of those in the combination group compared to 32% of those who received only glucosamine were categorized as responders. Combination therapy was received by twice as many patients who reported a 90 to 100% reduction in pain compared to those who received glucosamine alone.

The authors remark that while glucosamine sulfate improves cartilage metabolism, EPA and DHA further reduce degradation by suppressing inflammation, which lowers swelling and pain.

Editor's note: Life Extension members have long been advised to use a combination of glucosamine and/or chondroitin sulfate along with omega-3 fatty acids from fish oil to help manage arthritis. Life Extension suggests 1,400 mg EPA and 1,000 mg DHA per day, such as are supplied by two Super Omega-3 EPA/DHA with Sesame Lignans & Olive Fruit Extract, along with 1,500 mg glucosamine and 1,000 mg chondroitin.

—Dayna Dye

* *Advances in Therapy.* 2009 Sep;26(9).

IN THE NEWS

Soy Shows Promise for Colon Cancer Prevention

An article featured in a recent issue of the journal *Cancer Research* reveals the discovery of a team at Children's Hospital & Research Center in Oakland of compounds occurring in soy that could help prevent and possibly treat colon cancer.*

Julie Saba, MD and her associates discovered that natural lipid molecules called sphingadienes may be responsible for some of the cancer-preventive benefits found in soy. They first identified the compounds in fruit flies and found that they had the effect of inducing the death of mutant cells.

"It's very exciting," enthused Dr. Saba. "First, we are encouraged to find a natural molecule that could be consumed through soy products as a strategy to help prevent colon cancer. Second, this information is important because we can build on our understanding of the structure and metabolism of sphingadienes in terms of developing new drugs to treat people who already have colon cancer."

—Dayna Dye

* *Cancer Research.* 2009 Dec. 15.

Antioxidants Could Offer Protection to the Lungs During Flu Season

A report published in a recent issue of the *FASEB Journal* revealed a protective effect for antioxidants against lung damage caused by influenza.

Sadis Matalon and colleagues at the University of Alabama demonstrated that the virus damages the lungs via its M2 protein, which attacks the cells of the lungs' lining by disrupting their ability to remove fluid. In an experiment using human airway cells, those transfected with M2 revealed increased levels of damaging molecules known as reactive oxygen species. Co-administration of M2 with glutathione ester (an antioxidant compound) prevented M2 from causing damage.

"The recent outbreak of H1N1 influenza and the rapid spread of this strain across the world highlight the need to better understand how this virus damages the lungs and to find new treatments," Dr. Matalon remarked. "Additionally, our research shows that antioxidants may prove beneficial in the treatment of flu."

–Dayna Dye

* Available at: http://www.fasebj.org/cgi/content/abstract/23/11/3829. Accessed December 1, 2009.

Resveratrol May Prove to be HRT Alternative

A study published in the *Journal of Nutritional Biochemistry* shows that resveratrol may possibly offer a safer hormone replacement therapy (HRT) alternative and chemoprevention of breast cancer because of its estrogenic activity and high antitumor activity.*

Resveratrol is a phytoestrogen, which is a natural plant substance found in foods such as grape skins and red wine that display weak estrogen-like activity toward mammals. The directive of the study was to assess the estrogen-like effects and antitumor effects of individual dietary phytoestrogens by analyzing their effects on tumor cell growth, cell cycle activity and apoptosis (programmed cell death).

"Because it (resveratrol) stimulated the transcription of endogenous estrogen receptor (ER) and proapoptotic effects, this phytoestrogen is the most promising candidate as an HRT alternative and chemopreventive reagent for breast cancer," the researchers concluded.

–Jon Finkel

* *J Nutr Biochem.* 2009 Oct 2.

Achieve Multiple Health Benefits From Highly Absorbable Curcumin

How Much Curcumin Are You Absorbing?

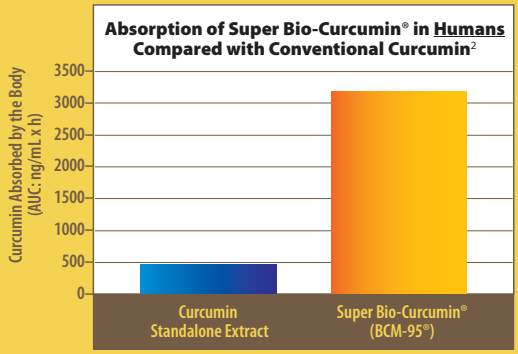


Chart 1. Super Bio-Curcumin® (BCM-95®) showed 6.9 times greater bioavailability (absorption and sustainability over 8 hours) in humans compared with conventional curcumin (as measured by the area under the curve [AUC] in a plot of blood levels against time, that is, the total amount of curcumin absorbed by the body over 8 hours).

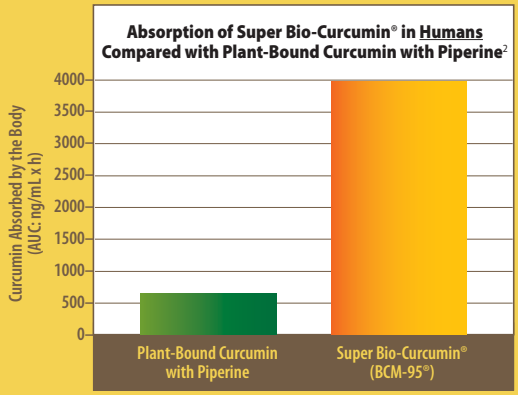


Chart 2. Super Bio-Curcumin® (BCM-95®) showed 6.3 times greater bioavailability (absorption and sustainability over 8 hours) in humans compared with plant-bound curcumin with piperine (as measured by the area under the curve [AUC] in a plot of blood levels against time, that is, the total amount of curcumin absorbed by the body over 8 hours).

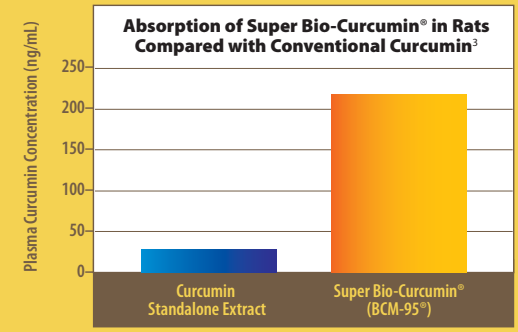


Chart 3. Bioavailability in rats fed with BCM-95® is 7.8 times higher than conventional curcumin.

Curcumin and other *turmeric* constituents are impressing scientists around the world with their remarkable health benefits, such as suppressing inflammatory factors, fighting free radicals, and promoting healthy DNA function. The problem is that curcumin is *poorly* absorbed into the bloodstream.

Super Bio-Curcumin® has been shown to **absorb up to seven times better** than conventional curcumin. This patent-pending formula thus represents the most cost-effective way to supplement with this critical nutrient.[1,2]

The remarkable absorption studies charted to the left reveal that just one **400 mg** capsule a day of this turmeric compound can provide *curcumin* blood levels equivalent to ingesting **2,500–2,800 mg** of commercial curcumin supplements.

Not only does this novel turmeric formulation provide far greater *peak* blood levels, but the curcumin also remains in the bloodstream almost **twice as long** compared with conventional supplements.

What's more, this enhanced absorption delivery complex provides other beneficial turmeric compounds in addition to standardized *curcumin*.

SUPER BIO-CURCUMIN® WITH BCM-95®

ITEM #00407

Life Extension®'s **Super Bio-Curcumin®** contains the patent-pending BCM-95® turmeric compound. A bottle containing 60 **Super Bio-Curcumin® with BCM-95®** capsules retails for $30. If a member buys four bottles during **Super Sale**, the price is reduced to just **$17.89** per bottle. Each bottle will last most members two months.

References:

1. *Spice India*. 2006 Sept;19(9):11-5.
2. A novel bioenhanced preparation of curcuminoids. Study submitted for publication, 2007.
3. Bioavailability study of BCM-95® in rats. Orcas International Inc. 2006.

To order Super Bio-Curcumin® with BCM-95®, call 1-800-544-4440 or visit www.LifeExtension.com

LARGEST SELECTION OF VITAMIN D SUPPLEMENTS

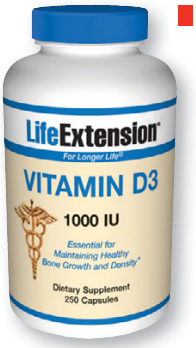
More studies have been published over the past four years supporting the health benefits of **vitamin D** than possibly any other compound.

The good news for consumers is that vitamin D is a very **low cost** supplement.

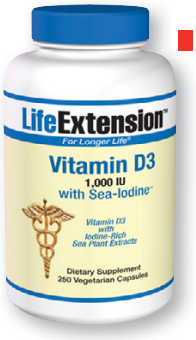
The objective of taking a vitamin D supplement is to achieve **25-hydroxyvitamin D** blood levels of **50** ng/mL (and higher).

Life Extension's® exclusive analysis of over 13,000 **vitamin D** blood tests reveals that the minimum intake for most aging people should be around **7,000** IU a day. Some individuals need **10,000** IU of vitamin D daily.

You can choose the right dose of **vitamin D3** for you from the large selection of vitamin D3 supplements below. Remember to factor in that you may be getting **1,000-3,000** IU of vitamin D in multi-nutrient formulas you already take.

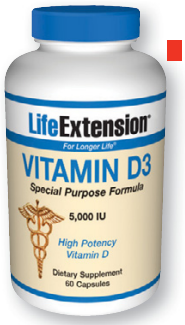


Vitamin D3 1,000 IU • 250 capsules
Retail: $12.50
Four bottle Member/Super Sale Price: $7.59
Commercial companies offered only **400** IU vitamin D products when Life Extension long ago introduced this **1,000** IU version. For most people, this 1000 IU potency is *insufficient* to attain optimal vitamin D blood levels. For smaller individuals who obtain **2,000-3,000** IU in their multi-nutrient formulas (and children), this potency of vitamin D may be suitable. **Item# 00251**

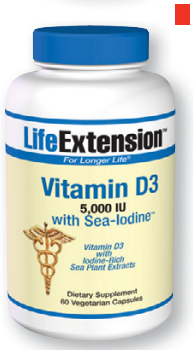


Vitamin D3 1,000 IU with 1,000 IU of Sea-Iodine • 250 vegetarian capsules
Retail: $22
Four bottle Member/Super Sale Price: $13.50
Most people do not ingest enough vitamin D and iodine, especially those seeking to reduce their salt intake. Combining **vitamin D3** and **iodine** into one capsule makes taking these two nutrients economical and convenient. **Item# 01371**

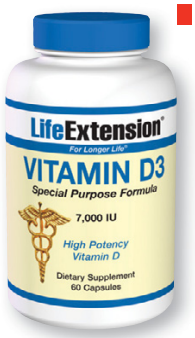
To order any of these high-potency vitamin D3 supplements at low Super Sale prices, call 1-800-544-4440 or visit www.LifeExtension.com



Vitamin D3 5,000 IU • 60 capsules
Retail: $11
Four bottle Member/Super Sale Price: $6.68
For those obtaining **1,000-3,000** IU of vitamin D in their multi-nutrient formulas, this **5,000** IU potency is what most need to *achieve* optimal vitamin D blood levels. **Item# 00713**



Vitamin D3 5,000 IU with 1,000 IU of Sea-Iodine • 60 vegetarian capsules
Retail: $14
Four bottle Member/Super Sale Price: $8.44
Most people do not ingest enough vitamin D and iodine, especially those seeking to reduce their salt intake. Combining **5,000** IU of **vitamin D3** and **1,000** IU of **iodine** into one capsule make taking these two nutrients economical and convenient. **Item# 01372**



Vitamin D3 7,000 IU • 60 capsules
Retail: $14
Four bottle Member/Super Sale Price: $8.51
Some individuals (such as those weighing more than 180 pounds) may require higher potencies of vitamin D. When combined with **1,000-3,000** IU obtained from multi-nutrient formulas, this **7,000** IU **vitamin D3** capsule should enable these individuals to attain **25-hydroxyvitamin D** blood levels above the desired range of **50** ng/mL. **Item# 01418**

Vitamin D3 Liquid Emulsion 2,000 IU • 1 ounce
Retail: $28
Four bottle Member/Super Sale Price: $16.88
For those rare individuals who have difficulty absorbing enough vitamin D3 from powdered capsules, this liquid emulsion of vitamin D can be used. **Item# 00864**

CAUTION: Individuals consuming more than 2,000 IU/day of vitamin D (from diet and supplements) should periodically obtain a serum 25-hydroxyvitamin D measurement. Do not exceed 10,000 IU per day unless recommended by your doctor. Vitamin D supplementation is not recommended for individuals with hypercalcemia (high blood calcium levels). People with kidney disease, certain medical conditions (such as hyperparathyroidism or sarcoidosis), and those who use cardiac glycosides (digoxin) or thiazide diuretics should consult a physician before using supplemental vitamin D.

SUPER MIRAFORTE

SUPPORTS HEALTHY TESTOSTERONE LEVELS—NATURALLY

Now With Standardized Lignans

Low levels of testosterone have been implicated in a host of life-threatening health problems. *Maintaining normal testosterone levels is one of the most important steps you can take to regain your health and improve your performance.*

If you're over 40, odds are you're already starting to feel the debilitating effects of low testosterone. Research shows that by the time they are 60 years old, men typically produce **60%** less testosterone than they did at age 20.[1] With this drastic reduction comes several well-documented problems—from the blues and cognitive impairment to reduced sex drive and abdominal weight gain. Normal testosterone has been associated with maintaining a healthy cardiovascular system.[2]

RESTORING HEALTH AND SEXUAL VIGOR

Life Extension®'s reformulated **Super MiraForte** contains high potencies of ***chrysin*** *and* ***nettle root***—plant extracts that naturally reduce the aromatization (conversion) of testosterone to estrogen to *enhance free testosterone levels.*[3] **Bioperine®** is included to facilitate the absorption of **chrysin** (a natural flavonoid) into the bloodstream.

Muira puama is a rainforest herb classified in the Brazilian Pharmacopeia as an aphrodisiac. In a trial of men with decreased libido and other sexual issues, **62%** of those taking **muira puama** reported positive results in regard to libido, while **51%** of those with a common sexual problem felt that the herb was helpful.[4] A second trial examined men with decreased libido and found that **85%** of the test subjects taking **muira puama** enjoyed an enhanced libido, **90%** had improved sexual function, and **100%** of test subjects experienced an increase in intercourse frequency.[5]

To augment these protective effects, a standardized **lignan extract** from Norwegian spruce has been added to Super MiraForte. These lignans convert to enterolactone in the intestine that is then rapidly absorbed into the bloodstream where it provides significant biological effects.[6] Enterolactone has demonstrated **anti-estrogen** and **anti-DHT** effects that are of particular importance for the aging prostate gland.[7-9]

The suggested daily dose of four capsules of Super MiraForte contains potencies of the following nutrients:

Chrysin	**1500 mg**
Bioperine®	**15 mg**
Muira puama	**850 mg**
Nettle root	**282 mg**
Ginger root	**50 mg**
Chelated elemental zinc	**15 mg**
Maca	**320 mg**
HMRlignan™ Norway Spruce lignan extract	**33.4 mg**

The retail price for a bottle of 120 capsules of **Super MiraForte with Standardized Lignans** is $62. If a member buys four bottles during **Super Sale**, the price is reduced to just **$37.80** a bottle.

Item #01315

Caution: If you are taking any medication, use only under physician supervision. Men with existing prostate cancer may not be able to use this product. Elevations in free testosterone can unmask an occult (hidden) prostate cancer. Anyone with this concern should have a baseline PSA prior to using this product and a follow-up PSA test 60 days later. If a significant elevation of PSA is found, discontinue this product and advise physician. Do not take more than 15 mg per day of Bioperine®.

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1. *J Clin Endocrinol Metab.* 1991 Nov;73(5):1016-25.
2. *J Clin Endocrinol Metab.* 2002 Aug;87(8):3632-9.
3. *Science.* 1984 Sep 7:225(4666):1032-4.
4. Presented at the First International Congress on Ethnopharmacology, Strasbourg, France. 1990;June 5-9.
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6. *Exp Biol Med (Maywood).* 2005 Mar;230(3):217-23.
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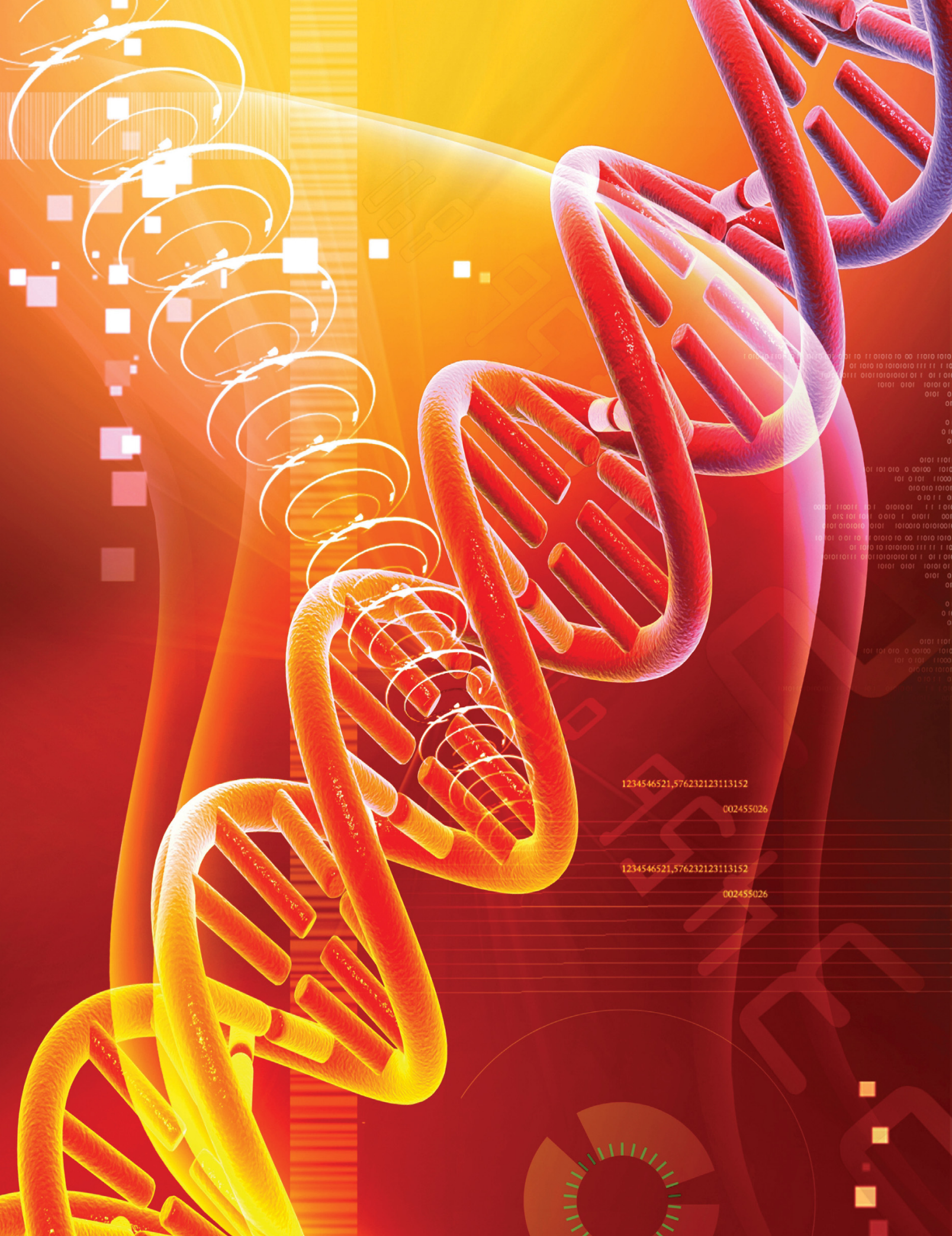
8. *Cancer Causes Control.* 2006 Mar;17(2):169-80.
9. *Cancer Epidemiol Biomarkers Prev.* 2005 Jan;14(1):213-20.

To order Super MiraForte with Standardized Lignans, call 1-800-544-4440 or visit www.lifeextension.com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Activate Your LONGEVITY GENES

Five Natural Compounds Simulate Caloric Restriction

BY JULIUS GOEPP, MD

The most scientifically validated way to extend life span—from single-celled organisms to mammals—is *caloric restriction*.[1] This technique has been shown to boost life span by nearly 100% in some species.[2]

Reducing the number of ingested calories—while maintaining healthy intake of essential nutrients—triggers a cascade of anti-aging mechanisms in the body. More than **70 years** of research have established its life-extending power.[3]

Modern science has only recently begun to unravel the mystery behind how *calorie restriction* so radically extends life span. At its core lies favorable alterations in ***gene expression***—one of the body's adaptive responses to reduced calorie intake. By activating certain genes and disabling others, caloric restriction dramatically slows aging.

This retardation of aging delays the onset of degenerative disease while improving biomarkers of youth, ranging from **metabolic rate** and **insulin sensitivity** to **cardiac health** and **cognitive function**.[4]

By the same token, the consequences of caloric ***overconsumption*** are equally profound. Every excess calorie brings you one step closer to age-related illness and death.

This is true at any stage of life, whether you're lean or overweight, regardless of your health or nutritional status.[5-7]

Eating more than your body needs (***excessive energy intake***) can load the blood with **triglycerides**, **glucose**, **homocysteine**, and **pro-inflammatory chemicals**. The results are accelerated aging processes, prompting deterioration across multiple biomarkers of health.[8]

Most humans find it difficult to submit to a sufficiently *rigorous* dietary regimen, leaving the benefits of calorie restriction tantalizingly out of reach. Until now!

In this article you will discover the most compelling evidence to date on the effects of caloric restriction. In a **milestone 20-year study** of Rhesus monkeys—our close genetic relatives—a *modestly* restricted diet resulted in a **three-fold reduction in the risk of age-related disease**![9]

You will also learn about five natural compounds that **favorably modulate gene expression** to support a more youthful health profile. These "caloric restriction mimics" *simulate* many of the beneficial effects of caloric restriction through multiple pathways.

Aging individuals may now enjoy some of the youth-promoting, disease-fighting mechanisms of caloric restriction—without strict dietary measures. > >

A Milestone in Longevity Research

In 1989, a group of anti-aging researchers launched what would prove to be the most comprehensive study of caloric restriction (CR) to date.[10] Rhesus monkeys were chosen as subjects because they exhibit biological and aging characteristics strikingly similar to humans. The results, published in 2009 in the prestigious journal *Science*,[9] provide compelling evidence of CR's age-delaying, disease-fighting power.

The monkeys were split into two groups. Half were allowed to eat naturally, without restraint; the other half subsisted on a nutrient-replete diet **30% lower in total calories** than they would normally consume. After **20** years, **37%** of controls had died of age-related causes, as opposed to just **13%** in the calorie-restricted group. In other words, caloric restriction cut degenerative disease risk by **a factor of three**.[9]

This study's findings are even more tantalizing when one sees that it did not require *severe* lowering of calorie intake to produce these striking results. Americans typically consume **100%** more calories than they need. It only required a calorie reduction of **30%** to achieve the remarkable benefits in this study.

The Rhesus monkey study also conclusively demonstrated caloric restriction's protective power. Over the course of **20** years, virtually ***all*** measured biomarkers of health were superior in the CR group.[9]

These findings have profound implications for humans. Rhesus monkeys are as vulnerable to chronic, age-related disease as we are. They lose their strength over time. Many become obese, fall prey to metabolic syndrome, and succumb to diabetes. They develop cardiovascular disease and cancer. And like aging humans, their brains shrink as they get older.

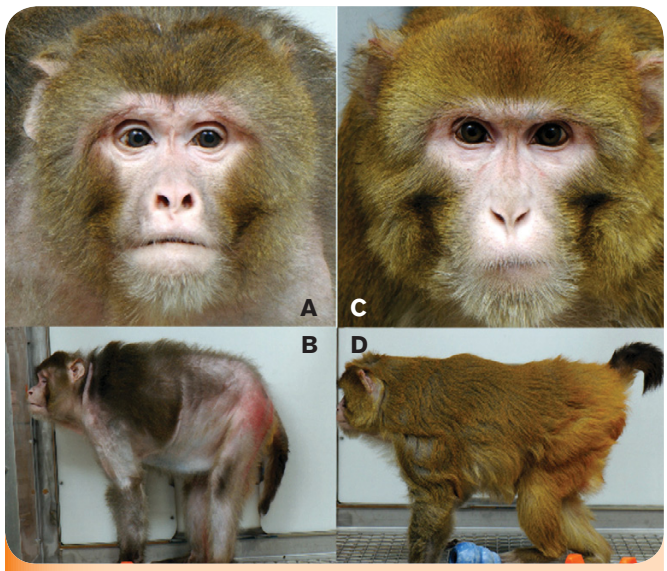
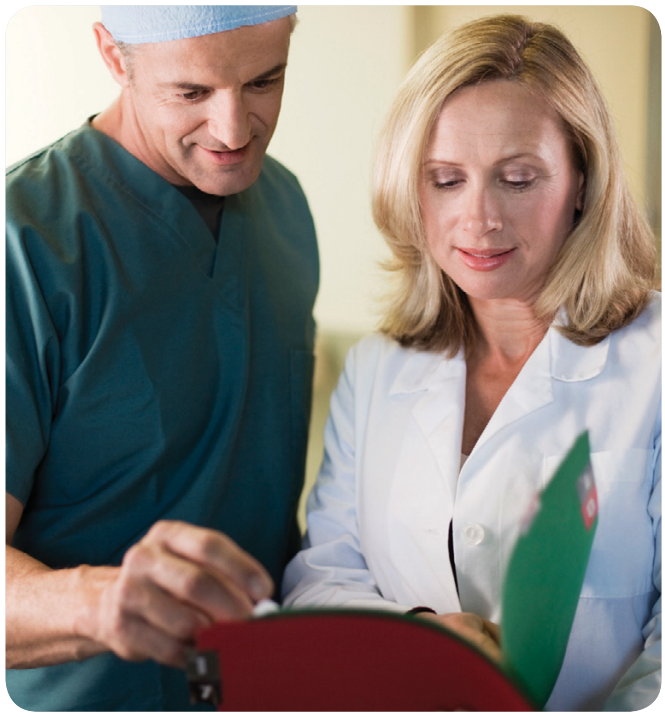


Figure 1. Appearance of Rhesus monkeys in old age (approximately 27.6 years). A and B show a typical control animal. C and D show an age-matched calorically restricted animal.[9]



Yet among the calorie-restricted group, incidence of cardiovascular disease was ***half*** the rate of controls. Not one member exhibited any symptoms of impaired glucose control or diabetes, whereas **40%** of monkeys who ate as much as they wanted had become diabetic or pre-diabetic.[9]

Calorie-restricted monkeys lost **fat** weight, but did not sustain loss of **muscle** mass observed in the control group. CR also inhibited reduction in **brain** volume, especially in areas governing cognitive and motor function.[9]

The robust health of the CR group compared to controls is clearly evident in photographs of the monkeys from the control and CR groups.[9] (See figure 1.)

Benefits of Calorie Restriction in Humans

All available data indicate that calorie restriction also slows aging and reduces the risk of killer diseases in humans as well. Individuals who impose a **20%** reduction in their calorie consumption for **2-6 years** lose **fat** weight and show significant improvement in their markers of aging, including **blood pressure**, **cholesterol** levels, and **glucose** control.[11]

Even *brief* periods of caloric restriction can temporarily improve core body temperature and insulin

sensitivity, which happen to be markers of longevity.[11,12] In clinical studies, short intervals of caloric restriction have reduced *systemic inflammation*—an underlying factor of so many chronic, degenerative diseases.

More youthful heart muscle performance[13] has also been observed—caloric restriction appears to increase the number of vital energy-producing *mitochondria* in heart and skeletal muscle, reducing the oxidative damage that accelerates aging.[14-16]

No other intervention documented in the scientific literature can compete with *caloric restriction* as a candidate for slowing aging and supporting youthful health in humans.

It is regrettable that most aging individuals don't lower calorie intake by the **20-30% reduction** required to reap the benefits of caloric restriction, as it can dramatically lower disease risk and add *years* to their lives.

Caloric Restriction "Mimics" and Gene Expression

The problem many people have in sufficiently reducing their calorie intake has led to a novel scientific solution.

Researchers have identified a select group of nutrients that trigger many of the same underlying mechanisms of action as caloric restriction. Among the most promising of these **caloric restriction mimics** and enhancers are **resveratrol**, **pterostilbene**, **quercetin**, and **grape seed extract**, along with **black tea extract**. These nutraceuticals have been shown to generate many of the same effects in the body as caloric restriction, without significant dietary modification. In particular, they "mimic" caloric restriction's favorable impact on **genes** that influence the aging process.

Genes have the capacity to directly affect life span by regulating a broad spectrum of aging factors, from inflammation and metabolic function to immune response. Calorie restriction exerts a beneficial effect on the *activity* of **gene expression**, supporting healthy cellular function through numerous physiological pathways. This includes:

- Blocking inflammatory factors
- Optimizing fat and carbohydrate metabolism
- Lowering serum glucose
- Supporting endothelial function
- Inhibiting cancer development and proliferation

Compounds that mimic caloric restriction bring about favorable changes in gene expression and improve the primary biomarkers of aging.

What You Need to Know

Caloric Restriction

- Excessive caloric intake is strongly associated with the onset of degenerative disease and shorter life span.
- Research shows that calorie restriction (CR) can extend life span and afford significant protection against age-related disease in many animal species.
- A landmark 20-year study demonstrated that caloric restriction powerfully counters the effects of aging in primates closely related to humans. CR produced a **three-fold reduction** in mortality from age-related conditions.
- A caloric restriction regimen strict enough to yield these benefits is difficult or impractical for most people.
- Nutrients known as "caloric restriction mimics" (or mimetics) afford a novel scientific solution. Working in tandem, their biomolecular action exerts similar effects on gene expression, providing the benefits of CR without severe dietary modification.
- Resveratrol, pterostilbene, quercetin, and extracts of grape seed rank among the most promising of CR mimics, while the polyphenols in black tea support these metabolic effects. Research shows that they powerfully inhibit systemic inflammation, enhance mitochondrial health, prevent cancer, and protect brain and heart tissue from age-related deterioration.

Controlling Nuclear Factor-Kappa B

Calorie restriction sharply limits expression of **nuclear factor-kappa B** (NF-kB). In the cells, **NF-kB** is a critical **gene regulator** that governs response to pro-inflammatory cytokines, free radicals, cholesterol levels, immune function, and cancer prevention.[17-24]

The nutrients that mimic caloric restriction also act to *stabilize* NF-kB regulation and help combat the age-related conditions associated with unfavorable NF-kB activity.

Resveratrol activates ***sirtuins***,[25] a powerful family of "information regulator" proteins that inhibit NF-kB, reducing inflammation throughout the body, such as that caused by second-hand cigarette smoke.[24] Resveratrol also prevents inflammatory mast cells from releasing the histamines that trigger asthma and allergic reactions.[26]

Resveratrol radically decreases production of the **adhesion molecules** that attract inflammatory cells to vascular walls, one of the principal mechanisms of atherosclerosis.[27,28] Adhesion molecules also permit cancer cells to invade tissue and metastasize. Resveratrol's influence over NF-kB has also enhanced beneficial UV-induced programmed cell death (*apoptosis*) in skin cancer cells.[29]

Found in blueberries, **pterostilbene** is a polyphenol closely related to resveratrol.[30] It limits NF-kB activity through multiple complementary mechanisms.[31] In vitro, pterostilbene suppresses invasive tumor activity and enhances therapeutic destruction of cancer cells.[32,33]

Quercetin's ability to protect against chronic inflammatory conditions such as asthma, inflammatory bowel disease, and arthritis is due in part to its capacity for NF-kB inhibition.[34,35]

Grape seed extract also disrupts cellular inflammation signaling by blocking NF-kB.[36] Its effect on pro-inflammatory cytokine production in fat cells may even help combat obesity and type 2 diabetes.[37]

Black tea extract's influence on NF-kB activity has been shown to specifically protect cells from damage associated with inflammation,[38] cancer,[39,40] Parkinson's disease,[41] and stroke.[42]

Suppressing Inflammatory Cytokines

Caloric restriction inhibits expression of genes that produce inflammatory cytokines—such as interleukins and tumor necrosis factor (TNF), as well as cyclooxygenase-2 (COX-2)—that are powerfully implicated in the onset of cancer, atherosclerosis, and chronic inflammation.[43-46]

Resveratrol and **pterostilbene** block the release of a host of inflammatory cytokines and enzymes found throughout the body—particularly tissues and organs stressed by environmental factors, infection, or trauma.[22,47,48] Pterostilbene powerfully suppresses the expression of inflammatory COX-2,[31,49] helping lower the risk of cancer as well as a host of inflammatory diseases.[50,51]

Quercetin inhibits the COX-2 enzyme involved in early-stage colon cancer, and suppresses numerous cytokines involved in allergies and autoimmune disorders.[34,35,53]

Grape seed extract specifically prevents fatty tissue from releasing inflammatory cytokines and adipokines that would otherwise provoke insulin resistance and atherosclerosis associated with metabolic syndrome.[37] By downregulating reactive cytokines, grape seed extract has been shown in animals to protect organs from ischemia-reperfusion damage (injury caused by the return of blood flow after a period of restriction).[54]

Black tea extract reduces levels of **STAT-1**, a protein which "tells" the cell nucleus to activate genes that produce inflammatory cytokines.[55]

Cancer Prevention

Calorie restriction (CR) upregulates genes that suppress cancer and downregulates genes that permit cancers to form or spread. CR prevents cancer cell reproduction and proliferation, while inhibiting the blood vessel growth cancer cells require to develop and metastasize.[46,56-62]

Resveratrol and **pterostilbene** mirror these effects. They combat cancer at every stage of development, inducing apoptosis (programmed cell death) in a variety of human cancer types, while preserving healthy cells.[32,63-66] Resveratrol also suppresses cancer proliferation by modulating expression of proteins involved in the reproductive cycle of abnormal cells.[67,68]

Quercetin activates "executioner" proteins while inhibiting survival proteins in human cancer cells, blocking their reproduction.[69-71] Quercetin and resveratrol have also been shown to block the expression of *vascular endothelial growth factor* (VEGF), an effect that may help starve tumors of their blood supply.[72]

Grape seed extract induces expression of a protein that arrests cancer cells early in their reproductive cycle, preventing further development and destroying them.[73] Similar to quercetin, grape seed extract fights angiogenesis by suppressing the VEGF signaling pathway.[74]

Black tea extract reduces expression of genes that cancer cells use to proliferate, survive, infiltrate healthy tissue, supply themselves with blood, and metastasize to other organs.[75] It has also been shown to upregulate expression of proteins that arrest the cell reproductive cycle and induce cellular death specifically in cancers.[76]

Enhanced Glucose Control

Caloric restriction enhances glucose control.[77,78] Recall that not one of the Rhesus monkeys in the study discussed earlier developed diabetes or exhibited symptoms of impaired glucose control.[9] Caloric restriction triggers gene regulators called *peroxisome proliferator-activated receptors* (PPARs), a class of proteins responsible for healthy fat and carbohydrate metabolism. They also play key roles in optimizing mitochondrial health[57,59] and thwarting the onset of metabolic syndrome and diabetes.[79]

Resveratrol[80] and **pterostilbene**[81,82] upregulate the production and activity of PPAR, launching a set of cellular processes that support a youthful metabolic profile. The PPAR activator resveratrol has been shown to:

- Prevent fat cells from absorbing sugar and converting it to fat[83]
- Reduce inflammation and insulin resistance in fat cells[84]
- Boost mitochondrial function [85]

Grape seed extract modulates a *different* set of PPARs that regulate fat storage. Grape seed extract induces **fat** metabolism while inhibiting the development of new fat cells.[86,87] It also protects endothelial cells by preventing the inflammatory response to proteins damaged by glucose (the age-accelerating process known as ***glycation***).[88]

Resveratrol further exerts a favorable influence on blood sugar metabolism at the cellular level, reducing glucose production in liver cells in a way that mimics prolonged calorie restriction.[89] In diabetic animals, resveratrol has been shown to help restore blood sugar to normal by modulating the activity of several enzymes involved in sugar metabolism.[90]

Pterostilbene and **grape seed extract** generate similar beneficial changes that help promote healthy blood sugar levels.[91,92] Grape seed extract activates genes that trigger **glucose uptake**. This assists cells in the *absorption* and removal of glucose from circulation.[92]

Quercetin has been shown to stimulate the proliferation of pancreatic cells that help modulate blood glucose levels in both diabetic and non-diabetic animal models.[93] It also markedly reduces expression of the enzyme that produces ***sorbitol***, a sugar alcohol known to cause cataracts and blindess.[94]

Black tea extract polyphenols inhibit ***lipase***,[95] an enzyme that breaks down fat in the stomach and small intestines. This helps block *absorption* of fat into the bloodstream.[96]

In animal models, the *theaflavins* in black tea extract prevent after-meal elevations in blood glucose and may protect against the *metabolic syndrome*.[97,98] This effect may help increase signaling for a powerful longevity factor called ***FOXO1a***.[99]

Summary

Caloric restriction (CR) is the most scientifically validated method shown to reliably extend life span in multiple species, from microorganisms to mammals.

A milestone 20-year study provides the most conclusive evidence to date of its efficacy in Rhesus monkeys, our close genetic relatives. The discovery of calorie restriction-mimicking nutrients makes it possible for aging humans to *emulate* some of CR's beneficial mechanisms of action, especially as an adjunct to modestly reducing one's overall calorie intake.[100] The unique ability of these nutrients to modulate **gene expression** exerts system-wide effects that, in addition to influencing many of the same pathways activated by calorie restriction, can also significantly reduce degenerative disease risk. ●

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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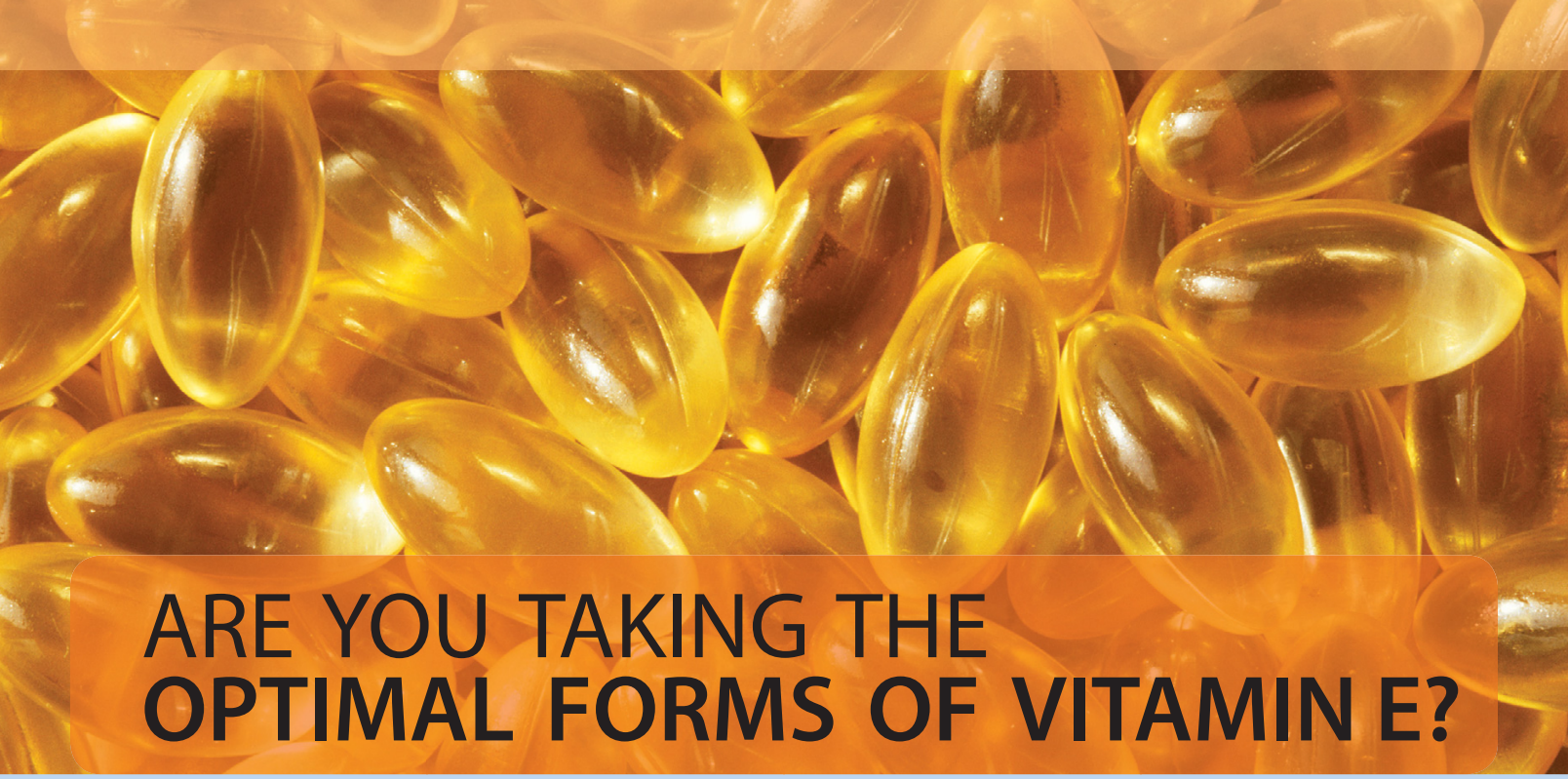


ARE YOU TAKING THE OPTIMAL FORMS OF VITAMIN E?

According to the *Proceedings of the National Academy of Sciences*, alpha tocopherol (regular vitamin E) displaces critically important gamma tocopherol in the cells.[1] While alpha tocopherol inhibits free-radical production, gamma tocopherol is required to trap and neutralize existing free radicals.[2]

Four prestigious scientific journals have highlighted **gamma tocopherol** as one of the most critically important forms of **vitamin E** for those seeking optimal health benefits.

Most commercial vitamin E supplements contain little, if any, **gamma tocopherol**. They instead rely on **alpha tocopherol** as the primary ingredient. However, it is gamma tocopherol (not the alpha form) that quenches **peroxynitrite**, the free radical that plays a major role in the development of **age-related decline**.[2,3]

SESAME LIGNANS: The Natural Vitamin E Booster

Life Extension® has uncovered research suggesting that adding **sesame lignans** to gamma tocopherol may significantly enhance its beneficial effects. Sesame and its lignans have been shown to boost antioxidant levels and help maintain already-normal blood pressure.*

In a human study that combined **gamma tocopherol** with **sesame lignans**, **gamma tocopherol/sesame** was **25% more effective** than **gamma tocopherol/tocotrienols** in suppressing tissue measurements for free-radical and inflammatory damage.[4,5] Since tocotrienols are considered nature's most potent antioxidants, the fact that low-cost gamma tocopherol with sesame is more effective is a remarkable finding.

Life Extension has fortified the popular **Gamma E Tocopherol** supplement with standardized **sesame lignans**. Consumers obtain superior benefits at a much **lower cost**.

WORLD'S MOST COMPREHENSIVE VITAMIN E FORMULA!

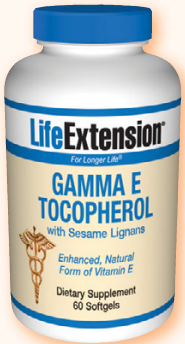
Each softgel of Gamma E Tocopherol with Sesame Lignans provides:

Gamma tocopherol	237 mg
Sesame lignan extract	20 mg
Delta tocopherol	79 mg
Alpha tocopherol	36 mg
Beta tocopherol	3.6 mg

This formula provides potent doses of **gamma tocopherol** along with **sesame lignan extract** to augment the **antioxidant** effects of **gamma tocopherol**.

The retail price for 60 softgels of **Gamma E Tocopherol with Sesame Lignans** is **$32**. If a member buys four bottles during **Super Sale**, the price is reduced to only **$19.58 per bottle**.

To order **Gamma E Tocopherol with Sesame Lignans**, call **1-800-544-4440** or visit **www.lifeextension.com**



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Antioxidant Vitamins & Cancer. Some scientific evidence suggests that consumption of antioxidant vitamins may reduce the risk of certain forms of cancer. However, the FDA does not endorse this claim because this evidence is limited and not conclusive.

Vital Greens Plant Foods

In a Convenient Powder Blend

Item #01098

We try to eat healthfully, but getting enough **plant foods** each day can be a challenge for many people.

The new **Vital Greens Mix** is a blend of ***organic*** whole plant foods that provide diverse benefits ranging from protecting DNA integrity and maintaining immune function to suppressing vascular risk factors and restoring healthy intestinal flora.

Some of the ingredients in the new **Vital Greens Mix** superfood include:

- **Chia**, a rich source of protein, fiber, vitamins, minerals, and alpha-linolenic acid (an omega-3 precursor). Recent research at the University of Toronto has shown that regular **chia** intake may help maintain healthy ***blood pressure*** and ***C-reactive protein*** levels, both of which are well-known markers of cardiovascular disease.[1]
- **Green Grasses and Sprouts** to provide a full array of ***chlorophyll-rich***, nutrient-dense natural "green" foods that help **detoxify** and maintain **youthful DNA integrity**. In addition, clinical trials with *chlorella* supplements demonstrate that daily use of this green food may *support healthy immunity* and *wound healing*.[2,3]
- **Probiotics** to sustain ***healthy bacterial balance*** in the gut, which may support overall *immune* and *digestive health*.
- A **mushroom blend** combining *maitake*, *shiitake* and *cordyceps* extracts to support ***immune health*** and provide adaptogenic benefits for balance and resistance.

Each serving provides:

Chia Seed (organic)	3000 mg
Chlorella (organic)	1000 mg
Spirulina (organic)	1000 mg
Acerola (organic)	750 mg
Wheat Grass (organic)	430 mg
Maitake Mushroom Extract (organic)	400 mg
Wheat Sprout (organic)	300 mg
Barley Malt (organic)	300 mg
Probiotic Blend (*Lactobacillus acidophilus, Lactobacillus casei, Lactobacillus plantarum, Lactobacillus rhamnosus, Bifidobacterium breve, Bifidobacterium longum*)	300 mg
Shiitake Mushroom (organic)	300 mg
Cordyceps Mushroom Extract (organic)	300 mg
Dulse (organic)	250 mg
Beet Juice (organic)	250 mg
Barley Grass (organic)	200 mg
Brown Rice Bran (organic)	200 mg
Cilantro (organic)	200 mg
Suma (organic)	150 mg
Flower Pollen Extract (organic)	120 mg

Life Extension®'s Vital Greens Mix is a great way to start off a meal. It induces some immediate satiety while providing beneficial plant foods that help neutralize mutagenic components of modern diets.

Each scoop of **Life Extension's Vital Greens Mix** provides a daily dose of nutrient-dense foods and herbal extracts. The retail price of a 30-serving jar of this organic superfood is $48. When a member buys four jars during **Super Sale**, the price is reduced to only **$29.70 per bottle**.

To order the new **Vital Greens Mix**, call **1-800-544-4440** or visit **www.LifeExtension.com**

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Activate Your Longevity Genes with New CALORIE RESTRICTION MIMETIC Formula

Scientists have *intensely* focused on finding out how ***calorie restriction*** so radically extends life span.

In response to reduced **calorie intake**, beneficial "youth" genes are ***activated*** while detrimental "senescence" genes are ***disabled***. These favorable ***gene expression*** changes play a critical role in the ability of calorie restriction to slow aging.

The incredible news is that a select group of nutrients has been discovered that trigger many of the same favorable mechanisms (including more youthful ***gene expression*** patterns) as **caloric restriction**.

Among the most promising **caloric restriction mimics** and enhancers are **resveratrol**, **pterostilbene**, **quercetin**, and **grape seed polyphenols**, along with **black tea extract**. These nutrients have been shown to generate many of the same effects in the body as caloric restriction, without significant dietary modification.[1-8] In particular, they help "mimic" caloric restriction's favorable impact on **genes** that influence the aging process.[1-8]

A new **Calorie Restriction Mimetic Formula** includes **resveratrol, pterostilbene, quercetin**, **grape seed polyphenols**, and **black tea extract** to provide even broader-spectrum gene expression support in one nutritional compound. The suggested dose of two capsules each day of the new **Calorie Restriction Mimetic Formula** provides:

***Trans*-Resveratrol**	**250 mg**
***Trans*-Pterostilbene**	**3 mg**
Quercetin	**150 mg**
Black tea extract	**300 mg**
Grape seed polyphenols	**50 mg**

A bottle containing 60 vegetarian capsules of the new **Calorie Restriction Mimetic Formula** retails for $36. If a member buys four bottles during the **Super Sale**, the cost is reduced to **$22.28** per bottle.

Item #01419

To order the new **Calorie Restriction Mimetic Formula** call **1-800-544-4440** or visit to **www.LifeExtension.com**

Note: Those taking other **resveratrol** products may consider switching to this new **Calorie Restriction Mimetic Formula**.

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Block *Absorption* of Killer Carbohydrates

BY JULIUS GOEPP, MD

If you're an American over 20 years old, you may already suffer from some form of ***impaired glucose control***.

According to 2007 data from the National Institutes of Health, **25%** of Americans 20 years and older had abnormally high levels of **glucose** in the blood—a **pre-diabetic** state. That number leapt to **35%** in individuals 60 and older. Extrapolating from the total US population, nearly ***60 million American adults*** may now be pre-diabetic.[1]

These statistics make it clear that the glut of excess ***carbohydrate*** calories lurking in the Western diet undermines our best efforts to maintain healthy metabolic function and body weight.

Far too many people have lost their *metabolic capacity* to properly ***process*** carbohydrates. The result is a looming public health disaster, as **impaired glucose control** initiates a series of ***metabolic disorders*** that sharply increases disease risk.

To reverse this lethal epidemic of impaired glucose control, aging individuals often require more ***aggressive*** measures than merely *limiting* carbohydrate intake.

Fortunately, researchers have discovered proven methods to limit one's *exposure* to carbohydrate calories without dramatic changes in diet. It centers on a group of natural compounds called **enzyme *inhibitors***.

These interventions *block* the action of **sucrase, amylase,** and **glucosidase,** digestive enzymes responsible for the breakdown of various *forms* of carbohydrate. Instead of absorbing and converting these sugars into higher than desired blood glucose levels, you may be able to safely eliminate many of these excess carbohydrate calories.

These natural "carb-blockers" provide a *practical* approach to help lower glucose levels, improve age-related markers of health, and regain glycemic control.[2] > >

Combating the Scourge of Sucrose

Starting in early childhood, most Americans are exposed to far too much *refined* carbohydrates in the form of sucrose (table sugar). It is virtually omnipresent in processed foods. It also happens to be an enemy to human health and an age-accelerator.

Many individuals do not even knowingly ingest it. According to a 2009 study in the *Journal of Nutrition*, only **3%** of dietary sucrose is deliberately *added* by consumers; ***82%*** is added by manufacturers.[3] And while the World Health Organization (WHO) recommends that sucrose comprise only **10%** of total energy intake, many people substantially exceed this level from the earliest years of life—usually at the expense of key nutrients.[3,4]

Manufacturers know that most people will consistently choose sweetened over unsweetened foods and beverages.[5] People will often *continue* to do so at the expense of their own health. After years of chronic exposure to sucrose, physiological processes not unlike addiction take hold. Rapid absorption of sugars from a high-sucrose meal triggers a dangerous sequence of unfavorable hormonal and metabolic alterations that promote still greater consumption, especially in overweight individuals.[6,7] The result is the dangerously high incidence of metabolic disease we see today—obesity, type 2 diabetes, and metabolic syndrome.[8-10]

This alarming trend has led to a set of novel, evidence-based solutions. Aging individuals now have practical means at their disposal to slow or reverse the long-term consequences of chronic sucrose *overexposure*.

Sucrose is composed of two simple sugar molecules, glucose and fructose. It is poorly *absorbed* in the intestine in this form. In order to be utilized, it must first be broken down by the digestive enzyme ***sucrase***. Blocking the enzymatic action of *sucrase* therefore limits uptake of *sucrose*.

L-arabinose

Researchers have identified a potent *sucrase* inhibitor called ***L-arabinose***. Although it is a simple plant sugar, L-arabinose is indigestible and cannot be absorbed into the blood. Instead it remains in the digestive tract and is eventually excreted.[11,12] By blocking metabolism of sucrose, L-arabinose *inhibits* the spike in blood sugar and fat synthesis that would otherwise follow a sugar-rich meal.[12] In animal models, L-arabinose virtually eliminates the rise in blood sugar following administration of sucrose, with blood glucose levels rising only **2%** higher than in control animals that did not receive sucrose. L-arabinose did not exert *any* effect on serum glucose levels in control animals that did not receive sucrose.[13]

L-arabinose has been proven safe in both short- and long-term studies, and may contribute to lowered levels of glycosylated hemoglobin (hemoglobin A1C),[14] a measure of chronic exposure to sugar in the blood. A study combining L-arabinose and ***white bean extract*** (see next page) not only smoothed out postprandial glucose spikes and reduced insulin levels—it *lowered* systolic blood pressure.[14]

Chromium

The trace element **chromium** is another potent aid in the management of healthy blood sugar levels. Scientists have known for years that chromium aids in the management of type 2 diabetes, where it not only helps control blood glucose but also reduces **total cholesterol levels**.[15-17] The combination of chromium with L-arabinose attacks multiple targets to prevent sucrose-induced blood sugar elevation and reduce sugar calorie exposure.

Complex Carbohydrate Enzyme Inhibitors

White Bean Extract

Extracts from the common white kidney bean, ***Phaseolus vulgaris***, are powerful blockers of the enzyme ***alpha-amylase***, which is secreted by the pancreas.[18,19] Alpha-amylase breaks down long-chain, complex starch molecules into simple sugars and short-chain ***oligosaccharides*** for absorption in the small intestine. Blocking *alpha-amylase* inhibits the metabolism of starches and *slows* the rate at which free sugars are absorbed.

White bean extract shows enormous potential for preventing the blood sugar and insulin spikes that are associated with many chronic health disorders.[13] Slowing starch digestion also prolongs the amount of time it takes for the stomach to empty its contents, further reducing the amount of carbohydrate calories released at any one time into the intestine.[20]

White bean extracts operate along numerous overlapping pathways in multiple, related physiological systems. Laboratory research shows that supplementation with *white bean extract* promotes weight loss in obese animals, with dramatic reduction in fat accumulation without loss of muscle mass.[21,22] Plasma *insulin* levels also dropped substantially following a high-carbohydrate meal including white bean extract in pre-clinical studies, reflecting a much more gradual rise in blood sugar levels.[22]

Amylase inhibition with *white bean extract* has proven particularly effective in reducing glycemia (sugar load in the blood) in studies on diabetic animals. Supplementation in diabetic rats not only substantially lowered mean blood sugar levels; it also reduced the animals' total food and water intake (water intake is increased in untreated diabetes because of the amount lost in sugar-laden urine).[23] White bean extract has also been shown to boost levels of an intestinal hormone called *cholecystokinin* (CCK), which produces the sensation of satiety following a meal and reduces the urge to continue eating.[24] Research further indicates it can restore overactive intestinal sugar-digesting enzymes

What You Need to Know

Irvingia

- Roughly 1 in 5 Americans are pre-diabetic, a result of excess carbohydrate consumption.
- The digestive enzymes *sucrase*, *amylase*, and *glucosidase* are primarily responsible for enabling carbohydrate absorption into the blood.
- L-arabinose—a natural but largely indigestible sugar—blocks sucrase activity, preventing the sugar *sucrose* from entering the bloodstream.
- Extracts of white bean, seaweed, and Irvingia block the breakdown of starch in the intestine, preventing their calories from being absorbed.
- Green tea extract helps your body burn additional calories at rest.
- Collectively, these natural compounds may dramatically inhibit total carbohydrate intake, limit postprandial blood sugar and insulin spikes, and generate weight loss.

to nearly normal levels, further reducing the sugar load.[23]

White bean extract has yielded equally compelling results in human studies. It has been shown to diminish the effects of high-glycemic index foods (like white bread) that are notorious for producing sharp, potentially dangerous postprandial blood sugar spikes, helping to alleviate metabolic burden throughout the body.[25] In obese but otherwise healthy patients, supplementation with white bean extract produces weight loss *more than twice as fast* as in controls.[26] Even in people who are only slightly overweight, *white bean extract* reduces body weight, body mass index (BMI), fat mass, fat tissue thickness, and waist circumference, while maintaining lean body mass[27]—key elements that are linked with metabolic syndrome and cardiovascular disease risk.

White bean extract is highly effective even in aging individuals whose diets contain the highest amounts of carbohydrates.[28] By blocking *amylase* and slowing starch digestion, it increases the amount of intact carbohydrates reaching the lower bowel, where they are consumed by **beneficial intestinal bacteria**.[19] It has also been shown to induce a **three-fold reduction** in serum triglycerides compared to controls.[26]

White bean extract has an excellent safety profile, even at high doses.[29] As with all the carbohydrate inhibitors reviewed here, it does not reduce blood sugar to *below* normal levels—an important feature for diabetics in whom large swings in glucose levels are especially dangerous.[13]

It should be noted that ingestion of white bean extract may result in minor intestinal protein losses, requiring additional protein intake.[30]

Irvingia

Extract of the wild African mango ***Irvingia gabonensis*** can produce weight loss by inhibiting calorie absorption and storage through multiple mechanisms. It also exerts potent anti-diabetic and anti-obesity effects.[31] Studies from Africa in the mid-1980's showed that Irvingia extract normalized blood sugar in diabetic patients while increasing the activity of enzymes involved in cellular energy metabolism.[32] Irvingia extract also lowers blood levels of dangerous LDL and VLDL in diabetics, while increasing beneficial HDL levels.[33] It mobilizes liver enzyme activity in favor of glucose storage and *away* from its release into the bloodstream, thereby improving glucose control.[31]

Irvingia works in part by inhibiting the amylase enzyme, and thus provides support for those attempting to restrict their total carbohydrate exposure and lose weight.[31] In one double-blind, placebo-controlled

White bean extract... has been shown to diminish the effects of **high-glycemic index foods** that produce sharp, potentially dangerous postprandial blood sugar spikes.

study of obese but otherwise healthy adults, one month of supplementation produced a **5.3%** body weight loss in supplemented patients, compared with only a **1.3%** loss in the control group.[34] These individuals also saw significant improvement in their lipid profiles. Additional studies confirm these findings, demonstrating significant reductions in body fat content, waist circumference, blood sugar levels, and markers of fat tissue regulation.[35,36]

In addition to blocking amylase activity, *Irvingia* extract acts directly on fat cells to reduce lipid formation and storage.[31,37] Its operation is multi-modal—down-regulating genes that promote fat production—while upregulating factors that suppress it, including *adiponectin*,[36,37] a glucose-regulating hormone that lowers fat-mediated inflammation and enhances insulin sensitivity.[38] Adiponectin levels correlate with a reduction in risk for metabolic syndrome.[39,40]

Seaweed Extracts

Extracts from several seaweed species (actually the complex algae known as kelp) are potent inhibitors of *amylase* and another digestive enzyme called *alpha-glucosidase*. They have proven to be cost-effective means of preventing the progression of diabetes in pre-clinical models.[41] In particular, extracts of *Fucus vesiculosus* and *Ascophyllum nodosum* are known to help lower blood glucose in normal and diabetic animals.[42,43]

A recent detailed study of a seaweed compound containing extracts from both *Fucus* and *Ascophyllum* offers insights into their mechanisms and benefits. The combination was given to laboratory rats prior to a meal with a high glycemic index.[44] Such meals typically produce a rapid rise in both glucose and insulin levels in the blood, with an equally rapid drop within 60 minutes. The *glucose* spike contributes to excessive formation of dangerous *advanced glycation end-products* (AGEs). The *insulin* spike contributes to paradoxically low blood sugar at about 90 minutes, which can create a sensation of hunger, prompting excess food consumption.

The seaweed combination cut postprandial sugar spikes by **90%** compared with untreated animals.[44] That in turn reduced the insulin spike by **40%**, which completely eliminated the period of low blood sugar that followed the meal in untreated rats.

In response to this seaweed combination, postprandial glucose and insulin profiles were modified to levels resembling meals with a much lower glycemic load. Blood sugar rose more slowly, achieved a shorter and more modest peak level, and then declined more gradually without ever "bottoming out" at an abnormally low level.

Lethal Dangers of Excess Insulin

As humans age and/or ingest excess calories, a phenomenon known as "insulin resistance" develops whereby cell membranes become less sensitive to the effects of insulin.

As glucose levels increase in the blood (instead of being taken up by cells), the pancreas tries to compensate by secreting higher levels of insulin. Too often the end result is a vicious cycle of ***hyperinsulinemia*** (excess blood insulin) and ***hyperglycemia*** (excess blood glucose) as aging cells become less efficient in removing glucose from the blood.

Too much **insulin** damages the body in the following ways:

- Converts excess glucose into fat stores[46]
- Floods the blood with triglycerides and C-reactive protein[46,47]
- Drives down levels of healthy HDL[46]
- Destabilizes the body's sodium balance, increasing blood pressure[48,49]
- May contribute to kidney damage[50]
- Ravages the vascular system[51,52]
- Has been associated with increased risk of certain cancers [53,54]

Glucose and insulin levels drop in response to reduced calorie intake, exercise, and/or use of compounds before meals that inhibit glucosidase, amylase, and sucrase enzymes in the digestive tract.

A recently completed human clinical trial produced similarly promising results. In this randomized, crossover, placebo-controlled, double-blind study conducted at Laval University, 23 healthy volunteers consumed **500 mg** of a *Fucus-Ascophyllum* combination along with a high-glycemic index meal of white bread. The seaweed combination produced a **44%** reduction in the glycemic response that normally follows ingestion of such a meal. The seaweed combination also produced a **22%** reduction in the initial insulin production following the meal, and an overall **5.9%** reduction in the area under the curve of the insulin response. The study results will be presented at the *Experimental Biology* meeting in Anaheim in April, 2010.[45]

The findings suggest that in humans, the *Fucus-Ascophyllum* compound may lead to earlier satiety, longer intervals between meals, fewer urges to snack, and lower total calorie intake.

Green Tea Extract

Raising basal metabolic rate is another effective mechanism for offsetting excess carbohydrate intake. Green tea extract boosts the "resting" metabolism by inhibiting an enzyme called catechol-O-methyl transferase or *COMT* that breaks down *noradrenaline*, an adrenaline-like hormone that sustains energy production.[55] The resulting higher levels of metabolic activity help to burn off excess calories.[56]

In a large clinical trial, a patented green tea phytosome extract produced exceptional weight loss in obese individuals. Supplemented subjects lost almost **31 lbs** over 3 months, while controls lost just 11 pounds![57] Both groups followed a low calorie diet. Multiple studies of overweight and obese adults indicate that green tea extracts can reduce abdominal fat as well as total cholesterol, LDL, and fasting triglyceride levels.[58,59]

Green tea provides another benefit in helping to alleviate the metabolic burden imposed by excess calorie ingestion. It has been shown to inhibit the *lipase* digestive enzyme that breaks down dietary fats for absorption into the blood.[60]

Summary

Roughly 1 in 5 Americans are pre-diabetic, a result of excess calorie consumption and normal aging. *Sucrase*, *amylase*, and *glucosidase* are digestive enzymes that break down carbohydrates, and *lipase* is a digestive enzyme that breaks down fat, facilitating absorption of excess calories into the blood.

As humans age, the impact of **chronic caloric overload** enabled by these digestive enzymes can lead to an array of life-threatening conditions ranging from high blood sugar and insulin to type 2 diabetes, obesity, and metabolic syndrome.

Natural compounds have been shown to effectively *inhibit* these digestive enzymes and *impede* the *absorption* of excess carbohydrate. **L-arabinose** neutralizes **sucrase**, reducing uptake of sugar (as sucrose) into the blood. Extracts of **white bean**, ***Irvingia gabonensis***, and certain **seaweeds** block **amylase** and **glucosidase** activity, further reducing the number of ingested carbohydrate calories that are absorbed. Green or black **tea** extract can help reduce the activity of **lipase**, a digestive enzyme that helps break down fat in the gastrointestinal tract.

These natural compounds have been shown to effectively lower excess calorie ***absorption*** while reducing postprandial (post-meal) blood sugar and blood fat (triglyceride) spikes. ●

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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BONE RESTORE

for Lifelong Bone Health

Maintaining strong, healthy bones is a cornerstone to successful aging. Unfortunately, even supplement users often fail to consume enough **calcium, vitamin D,** and other nutrients shown to help maintain healthy bones.

New research on **vitamin D** has led an increasing number of experts to advise men and women to consume **1000 IU** (and higher) of vitamin D each day to help maintain bone density.

The daily dose of **Bone Restore** provides **1200** elemental **milligrams** of highly absorbable **calcium**, plus **1000 IU** of **vitamin D3**.

Bone Restore also contains ample **magnesium**, along with nutrients that enable calcium and magnesium to be incorporated in the bone matrix.

In addition, **Bone Restore** delivers a patented form of **boron** that is identical to natural plant forms found in food. Considered more bioavailable than other forms of boron, **FruiteX B® OsteoBoron®** supports healthy joints and bone.

Bone Restore comes in fast-release capsules, making the minerals and other nutrients immediately available for absorption.

The retail price for 150 capsules of **Bone Restore** is $22.50. If a member buys four bottles during **Super Sale**, the price is reduced to just **$13.16** per bottle.

Item #00811

Just five capsules of **Bone Restore** provide:

Highly-Absorbable Calcium (from dicalcium malate, bis-glycinate, and fructoborate)	**1200 mg**
Vitamin D3	**1000 IU**
Magnesium	**340 mg**
Boron (calcium fructoborate as patented FruiteX B® OsteoBoron®)	**3 mg**
Zinc	**2 mg**
Manganese	**1 mg**
Silicon	**5 mg**

FruiteX B® and OsteoBoron® are registered trademarks of VDF Futureceuticals, Inc., U.S. Patent No. 5,962,049.

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

A Multi-Faceted Approach to HEALTHY BODY Weight

It's not your fault! Public health agencies blame gluttonous behavior and lack of physical activity as the sole reasons for today's **obesity epidemic**. Ignored are a plethora of age-related ***metabolic*** changes that predispose us to weight gain, even when we try to cut back on caloric intake.

The good news is that you don't have to do it alone. Scientists have identified *natural compounds* that function via *multiple* mechanisms to combat the underlying factors involved in excess accumulation of body fat.

New *Phase 3*™ Sucrase Modulator

A recent study in the journal *Science* concluded that in primates a ***calorie-restricted diet*** can delay disease onset and age-related mortality.[1] While *Life Extension*® readers understand the benefits of calorie restriction, that doesn't make it any easier to cut back on one of the major calorie culprits in the American diet: *refined sugar*.

Sucrase is an enzyme that breaks down sucrose in the digestive tract for *absorption* into the bloodstream. **Phase 3**™ is a new, patented compound that functions as a beneficial modulator of sucrase. By delaying the rapid absorption of sucrose, **Phase 3**™ can help support the healthy release of insulin and sugar into the bloodstream in response to sucrose ingestion that so readily converts to body fat. **Phase 3**™ contains a natural substance found in plants called ***L-Arabinose*** that provides an important new weapon in the battle to reduce the number of absorbed calories from sugar.

Green Tea Phytosome Cellular Energy Enhancer

The ability of **green tea extracts** to inhibit the breakdown and absorption of dietary fat has been the subject of research studies across the globe. Mounting scientific research has documented the ***metabolic effects*** of **green tea** polyphenols. A proprietary ***phytosome complex*** has shown an ability to increase the absorption of green tea polyphenols into the bloodstream better than conventional tea extracts — resulting in peak plasma levels of the critical green tea polyphenol *epigallocatechin-3-gallate*.[2]

Participants in a human clinical trial showed an average weight loss of **30 pounds** and a **10%** reduction in waist circumference in **90** days when 300 mg/day of this new **green tea phytosome** was taken in conjunction with a reduced-calorie diet.[2] The *placebo* group that followed the same reduced-calorie diet lost only **9.9 pounds** and only **5%** of their waist size.

The Alpha-Amylase Enzyme

Aging reduces our ability to utilize the ***carbohydrates*** (and fats) that constitute what most would consider part of a healthy diet. The result is that as we grow older, our bloodstreams become chronically *bloated* with **glucose** and **triglycerides** in direct contrast to the youthful metabolic profile we have in our younger years. Emerging scientific research suggests that the alpha-amylase enzyme plays an undesirable role in the digestion of dietary carbohydrates and subsequent absorption of calories from starch and sugar.

A natural bean extract (*Phaseolus vulgaris*) moderates *alpha-amylase* activity. In a human trial in which all overweight participants were placed on a 2,000–2,200-calorie, carbohydrate-rich diet, those taking ***Phaseolus vulgaris*** lost **6.5 pounds** and **1.2 inches** in waist size in only **30 days** compared with **0.8 pounds** and **0.2 inches** in the placebo group.[3]

The *Alpha-Glucosidase* Enzyme

Another intestinal enzyme that enables carbohydrate absorption is ***alpha-glucosidase***. A patented seaweed extract (**InSea**^{2}™) has demonstrated the ability to help maintain healthy levels of both *alpha-glucosidase* and *alpha-amylase*. When given to laboratory animals, this seaweed extract reduced after-meal (postprandial) **glucose** elevations by up to **90%** compared with non-supplemented animals.[4]

Remember, young healthy individuals rapidly convert ingested fats-sugars into energy. Age-related changes decrease our ***metabolic capacity*** to efficiently utilize dietary fats-sugars. It is thus paramount for aging people to reduce their *absorption* of excess calories. By taking nutrients before each meal that reduce the activity of carbohydrate-fat digesting enzymes, the calorie burden is significantly reduced.

To order Optimized Irvingia with Phase 3™ Calorie Control Complex, call toll-free 1-800-544-4440.

Leptin Sensitivity

Fat cells (adipocytes) secrete a hormone called *leptin* that tells our brain we have eaten enough. *Leptin* can also facilitate the breakdown of stored *triglycerides* in our adipocytes via the process of *lipolysis*. Heavy individuals have startlingly high blood levels of leptin, indicating that their cells have become *resistant* to the *leptin* that is supposed to prevent them from putting on so many fat pounds.

An extract from a West African food called ***Irvingia gabonensis*** has been shown to help support *leptin sensitivity* in overweight people. In a recently published study, **Irvingia** demonstrated beneficial effects upon leptin blood levels, followed by weight loss and inches off the waistline.[5] In addition to supporting healthy *leptin sensitivity*, Irvingia has demonstrated the following beneficial effects on key aspects of metabolism:

• ***Glycerol-3-phosphate dehydrogenase*** is an enzyme involved in the complex biochemical process that converts ingested starch and sugar calories to stored body fat. **Irvingia** has been shown in studies involving fat cells to reduce the activity of *glycerol-3-phosphate dehydrogenase*,[6] which may help reduce the impact of starch and sugar calories on body fat.

• Scientific research on fat cells suggests that **Irvingia** has ***alpha-amylase-inhibiting*** properties[7] (like *InSea*[2™] and *Phaseolus vulgaris*), which can help support a *slowing* of the rate of carbohydrate absorption from the intestines and a reduction of the caloric impact of starchy and sugary foods.[8]

• **Adiponectin** is a hormone involved in helping to maintain insulin sensitivity on the membranes of energy-producing cells. Big fat cells produce *less* adiponectin, and overweight people need to be especially concerned about maintaining healthy levels of adiponectin to support insulin sensitivity and metabolic fitness. Scientific data suggests that **Irvingia** helps support healthy adiponectin levels.[6]

The New *Optimized Irvingia* with Phase 3™ Calorie Control Complex

In reviewing the remarkable effects demonstrated by these *natural compounds*, one might think that any one of them might be a solution to their weight problem. The reality is that aging individuals often fall victim to *many* ***molecular factors*** that can sabotage the best weight-loss programs.

The new ***Optimized Irvingia*** formula provides a combination of nutrients that combat *age-related* fat accumulation via the following eight distinct mechanisms:

1. Delaying *digestion and absorption* of sucrose.
2. Enhancing *resting energy expenditure* at the cellular level.
3. Slowing the absorption of *dietary fat* from the intestines.
4. Moderating *alpha-amylase enzyme activity* to *reduce* carbohydrate absorption in the bloodstream.
5. Reducing *alpha-glucosidase enzyme activity* to *further slow* the absorption of starches and sugars into the bloodstream.
6. Supporting *leptin sensitivity* to reduce hunger and stimulate lipolysis.
7. Supporting youthful levels of *adiponectin* to help maintain healthy insulin sensitivity.
8. Moderating *glycerol-3-phosphate dehydrogenase enzyme* activity to reduce the amount of ingested starches that are converted to triglycerides and stored as fat.

Two capsules of *Optimized Irvingia with Phase 3™ Calorie Control Complex* provide:

Phase 3™ L-Arabinose and chromium complex (supplying 475 mg L-Arabinose and 100 mcg Chromium in a food bound state)	550 mg
Green Tea Phytosome (decaffeinated) extract	150 mg
Phase 2® *Phaseolus vulgaris* white kidney bean extract	445 mg
InSea[2™] seaweed extract	125 mg
Irvingia gabonensis extract	150 mg

Summary of Human Studies with New Optimized Irvingia Ingredients

Ingredient	Study	Treatment vs Placebo
Green Tea Phytosome Extract	100 overweight subjects placed on a hypocaloric diet (men: 1,850 calories; women: 1,350 calories) randomized to receive 300 mg/day of green tea phytosome extract or placebo for 90 days[2]	Weight loss 30.1 pounds vs. 9.9 pounds Waist size reduction 10% vs. 5% (14% vs. 7% in men)
Phase 2® White Kidney Bean Extract	60 overweight subjects placed on a 2,000-2,200 calorie, carbohydrate-rich diet and randomized to either 445 mg/day of white kidney bean extract or placebo for 30 days[3]	Weight loss 6.5 pounds vs. 0.8 pounds Waist size reduction 1.2 inches vs. 0.2 inches
Integra-Lean® *Irvingia Gabonensis* Extract	102 overweight subjects randomized to either 150 mg of Irvingia twice daily or placebo for 10 weeks[5]	Weight loss 28 pounds vs. 1.5 pounds Waist size reduction 6.4 inches vs. 2.1 inches
Phase 3™	50 non-diabetic subjects were used to study the suppression effects of L-Arabinose and chromium on capillary glucose[9]	Consuming LA-Cr simultaneously with a 70 gram sucrose challenge suppressed the glucose response an average of -20% compared to control over four different time periods.

Note: Supplements should be taken in conjunction with a healthy diet and regular exercise program. Results may vary.

Item #01492

Directions are to take two capsules before the two heaviest meals of the day. A bottle of **120** capsules of **Optimized Irvingia with Phase 3™ Calorie Control Complex** retails for $78. If a member buys four bottles during **Super Sale**, the price is reduced to **$48.60 per bottle**.

Caution: This product is 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 post-meal blood sugar and serum triglyceride levels, or how 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 effects in clinical studies.

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BY JULIUS GOEPP, MD

Reverse Mitochondrial Damage

Potent Molecular Energizers for Lifelong Health

Progressive loss of function in the *mitochondria*—the cellular generators responsible for nearly all the body's energy output—speeds aging and death.

Mitochondrial *dysfunction* has been linked to an array of degenerative illnesses, ranging from diabetes and neurological disorders to heart failure.[1,2]

In 2007, a group of researchers reported a **major (but little-known) breakthrough** in our understanding of *how* mitochondrial dysfunction unfolds—and what can be done to protect yourself against its lethal impact.[3]

They discovered that potentially deadly defects in human mitochondria, including molecular decay and membrane injury, begin to appear and can be detected **nearly a decade before the onset of permanent damage to the DNA**.[3]

More importantly, their analysis revealed that in its initial stages, mitochondrial dysfunction is ***reversible***, enabling the life and health of cells to be prolonged at the molecular level. The key lies in early interventions to ensure *optimal* mitochondrial function before ***irreversible*** DNA damage occurs.

In this article, we review the latest research on a set of compounds that specifically target and enhance mitochondrial function through multiple modes of action. > >

The Cellular Death Spiral

Mitochondria are responsible for converting energy from the food you ingest into usable "currency." Carbohydrates, fats, and proteins are broken down inside your cells into components that enter the cellular powerhouses known as mitochondria. Throughout this cellular journey, these "macronutrients" undergo a complex series of biochemical transformations that generate *adenosine triphosphate* (ATP), the molecular energy currency behind *all* biological functions. To give you an idea of ATP's life-sustaining importance, your body converts a volume of ATP equal to your entire weight *every day*.

At the core of this energy conversion matrix lies the ***electron transport chain***, a series of molecules embedded in the inner mitochondrial membrane. It serves as the "power line" through which needed chemical energy is released and transferred into vital ATP.

This energy-intensive process throws off an immense number of electrons within the mitochondria, resulting in constant exposure to **free radicals**—and rendering the mitochondria especially vulnerable to oxidative damage.[4-6]

The result is a cellular *death spiral*: the mitochondria gradually deteriorate, leading to a decrease in vital ATP production and a deadly increase in free radical generation. Over time, this continuous free-radical onslaught destroys the mitochondria through progressive membrane damage and molecular decay.

As levels of oxidative damage from mitochondrial dysfunction steadily rise with age,[7,8] the body's antioxidant defenses gradually weaken *at the same time*, accelerating cellular senescence and death.[4,9,10]

Left unchecked, this fatal cycle speeds the general decline in overall function that accompanies aging[4,11] and contributes to the onset of degenerative disease.[12-15]

CoQ10's Rejuvenating Power

Coenzyme Q10 (CoQ10) powerfully safeguards mitochondria from age-related decay and death through two principal pathways.

It plays an essential role in the ***electron transport chain***, facilitating the efficient transfer of electrons into ATP for use in cellular function.[16] CoQ10 resides primarily on the inner membranes of the mitochondria; **95%** of all cellular energy production depends on it.

CoQ10 also acts as a powerful free radical scavenger, neutralizing their lethal action and dramatically reducing oxidative damage. The more available CoQ10 in the mitochondria, the less free radical damage.[16] This is one of the reasons why the highest CoQ10

concentrations are found in the most energy-intensive organs: the brain, heart, liver, and kidneys.[17]

CoQ10 levels in our vital organs, like the heart, steadily rise after birth and peak at about 20 years of age. After that, they undergo a continuous decline.[18] Fortunately, three decades of cutting-edge research have shown us how to *restore* CoQ10 levels in the mitochondria to slow and even reverse the effects of aging.[19-22]

In pre-clinical models, CoQ10 supplementation protects tissue from lethal DNA damage and increases lifespan.[23] It boosts mitochondrial function and total energy output in heart muscle in aging animals.[24] And in animal models, lifelong CoQ10 supplementation has been shown to decrease oxidative damage in skeletal muscle, increase native antioxidant enzymes, and favorably modify age-related changes in muscular energy metabolism.[25]

Until 2007, the only form of CoQ10 available was *ubiquinone*. Unfortunately, the ubiquinone form of CoQ10 has limited absorption.[26] Another form of CoQ10, known as *ubiquinol*, remains up to eight times longer in the blood.[27,28]

The Heart Health Warrior

Dense with mitochondria, the heart requires more energy than any other organ—and the greatest concentration of CoQ10.[29] This is especially true for aging individuals, even those with advanced chronic heart disease. Scores of studies show that chronic heart conditions, including **congestive heart failure** (CHF), are characterized by diminished levels of CoQ10 in heart tissue. Its therapeutic benefit has proven just as profound for these individuals.

In a 2008 study, **standard** CoQ10 supplements failed to improve either CoQ10 levels or cardiac performance in individuals suffering from CHF, while ***ubiquinol*** succeeded on both fronts.[30]

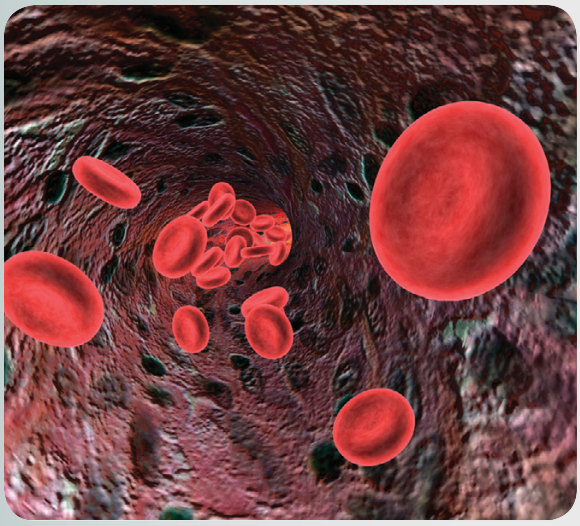
The study involved individuals with advanced CHF. Their hearts pumped less than half as well as normal, with low CoQ10 levels *despite* taking an average of **450 mg/day** of standard CoQ10. When the same people took ubiquinol (**580 mg/day** on average), their CoQ10 blood levels vaulted into the therapeutic range—and their hearts' pumping action improved by **77%**.

At the outset of this study, every participant suffered from category IV CHF (the most severe form), presenting continuous symptoms—even at rest—with severely limited activity. By the end of the study, the average CHF score had fallen to category II, indicated by mild symptoms (such as slight shortness of breath and/or angina) and minimal limitations during ordinary activity.[31]

What You Need to Know

Mitochondria Health

- Mitochondria are the cellular organelles that power every energy-requiring bodily process.
- Progressive loss of function in the *mitochondria*—the cellular power generators responsible for nearly all energy output in the body—speeds cell aging and death.
- Researchers recently discovered that signs of age-related mitochondrial damage appear nearly a decade before the onset of ***permanent*** DNA damage.
- They also found that mitochondrial decay and dysfunction are *reversible*.
- A handful of mitochondrial-energizing nutrients have been shown to offer powerful protection from mitochondrial damage and dysfunction.
- CoQ10 speeds mitochondrial electron transport, increases energy production, and protects tissues from mitochondrial decline.
- Shilajit, an ancient Indian adaptogen, enhances CoQ10's mitochondrial benefits and supports levels of the active ubiquinol form.
- R-alpha-lipoic acid further supports mitochondrial energy production.
- Acetyl-L-carnitine "feeds" energy-releasing molecules to mitochondria, improving their efficiency and preventing damage.



CoQ10 supplementation also increases heart muscle ***contractility***—the strength of the heart's squeezing action—enabling the heart to pump more blood more efficiently, even in patients with advanced CHF.[32]

Chronic CoQ10 deficiency has been linked to poor surgical outcomes in elderly patients compared to younger ones.[21,33] By energizing cardiac mitochondria, CoQ10 exerts a powerful effect on cardiac performance in individuals with CHF. Supplementation with CoQ10 and other antioxidants and heart-energizing nutrients such as L-carnitine and taurine reduces distended heart volume in patients—a vital factor in reducing the risk of bypass surgery.[34]

Following a heart attack, cardiac tissue is at great risk for further injury, including a second attack. In patients recovering from recent heart attacks, just **120 mg** of CoQ10 per day produced remarkable benefits.[35] After one year, only **25%** of supplemented patients suffered a cardiac event, compared with **45%** in the placebo group, and cardiac deaths were significantly fewer compared with placebo. Supplemented patients also had increased high-density lipoprotein (HDL) and dramatically lower measures of oxidative stress.

Mitochondrial dysfunction is linked to a broad range of degenerative illness, from diabetes and neurological disorders to heart disease.

CoQ10 also benefits people undergoing cardiac surgery, particularly older adults whose outcomes tend to be worse than younger people's, owing to declining mitochondrial function and density in heart tissue.[21]

Treating heart tissue with CoQ10 improves its metabolic stress response and speeds recovery after ischemia (loss of blood flow)—two major concerns after cardiac surgery.[21] Oral CoQ10 therapy for one week before surgery improves mitochondrial energy efficiency and post-operative heart function, while reducing heart muscle damage and shortening hospital stays.[21] A 2008 study also showed significantly fewer arrhythmias (abnormal heart beats), less need for medications to boost cardiac strength, and less need for blood transfusion in patients who received CoQ10 supplementation prior to cardiac surgery, compared to patients who did not receive CoQ10.[36]

Potent Endothelial Defense

The lining of our blood vessels, or ***endothelium***, regulates blood flow and pressure, and is easily damaged by oxidative stress and inflammation, which increases the risk of atherosclerosis and erectile dysfunction. CoQ10 powerfully protects endothelial function, an effect that is likely due to its uniquely beneficial effect on mitochondrial function.[37]

One study of the **ubiquinol** form of CoQ10 showed that it protects against hypertension, improves endothelial function, and reduces cardiac enlargement in stroke-prone rats.[38] When humans with endothelial dysfunction took **300 mg/day** of CoQ10 orally for one month, their blood vessels relaxed more readily and they moved more oxygenated blood into tissues compared with placebo recipients.[39]

People with type 2 diabetes are at particularly high risk for endothelial dysfunction, and have more heart attacks and strokes as a result.[40] CoQ10 supplementation is especially effective at improving endothelial function in this population.[41] Diabetics (and others) often need to take statin-type lipid-lowering medications to control their cholesterol levels. Unfortunately, these drugs (also known as HMG Co A reductase inhibitors) are known to deplete CoQ10 and can cause muscle pain that may be related to this depletion.[42] CoQ10 overcomes this problem and has been shown to improve endothelial function in diabetic patients on statins.[43]

Muscular Energy Enhancement

Exercise can boost longevity and even increase mitochondrial density in the short term; however, exercise can also *damage* the mitochondria in the long term.[44,45] The high rate of oxygen and electron flow that exercise requires can lead to chronically low ATP levels, which may exert negative effects during vigorous exercise.[46] CoQ10 supplementation can counteract such effects, enhancing the adaptive response of skeletal muscle following exercise.[47]

CoQ10 supplementation before exercise increases muscle CoQ10 levels, reduces muscular oxidant stress, and may increase the amount of time you can exercise until exhaustion.[48] To take one dramatic example, CoQ10 supplementation of **300 mg/day** resulted in improved blood markers of exercise-induced muscle injury among elite Japanese Kendo athletes (a form of martial arts) practicing up to five-and-a-half hours per day.[49]

CoQ10 at just **100 mg/day** even enhances performance of normally sedentary men during repeated bouts of exercising.[50] Supplementation of **300 mg/day** enabled adults to increase their velocity on a stationary bike compared with placebo, while reducing fatigue.[51]

CoQ10's remarkable energy-boosting effects can also reduce adverse effects associated with statin therapy, including fatigue, muscle pain, shortness of breath, memory loss, and nerve pain in the extremities.[52] Patients with statin-induced fatigue who stopped the drug and took **240 mg/day** of CoQ10 saw a decrease in fatigue from **84%** to just **15%**; a drop in muscle pain from **64%** to **6%**, and a decline in shortness of breath from **58%** to **12%**. These are all manifestations of restored mitochondrial energy and function—and the study found no adverse consequences from discontinuing the statin drugs. (You should never abruptly discontinue ***any*** medication without discussing it with your doctor.)

System-Wide Protection

CoQ10 also has dramatic benefits in other tissues, particularly in the brain, eyes, and skin.

There's growing recognition of the role of "brain energetics," including mitochondrial health, in causing (or preventing) progressively fatal neurological conditions, including Alzheimer's disease, Parkinson's disease, and amyotrophic lateral sclerosis (ALS or Lou Gehrig's Disease).[12,53] Animal studies show that CoQ10 supplementation increases brain levels of CoQ10, sustaining the brain's tremendous energy needs. At the same time it reduces brain injury and increases life span in mice with a neurodegenerative disease similar to ALS.[54]

CoQ10 benefits peripheral nerves as well. People with diabetes often succumb to painful diabetic neuropathy and decreased ability to sense pressure, which can lead to disastrous injuries. Studies of diabetic rats with neuropathy show that CoQ10 improved nerve conduction velocity and strength of nerve impulses.[55]

Nerve cells in the eye are faced with enormous energy demands—they must convert light into electrical impulses, while protecting themselves from the damaging effects of both.[56] Researchers now know that mitochondrial health is vital to sustaining the health of cells in the retina, where optical nerves are concentrated.[57] Unfortunately, CoQ10 levels in the retina decline rapidly with age, leaving delicate cells vulnerable.[58]

In combination with acetyl-L-carnitine and omega-3 fatty acids, CoQ10 generated dramatic results in studies of individuals suffering from early age-related macular degeneration. Supplemented patients had a **10-fold lower risk** of worsening over a 12-month period, compared with those who received placebo![59] Pre-clinical models suggest that CoQ10 may even protect retinal tissue from the effects of glaucoma.[56]

Our skin shows the most immediate and visible signs of aging. Only recently have we learned how

Advanced Mitochondrial Threats: Glycation and Lipoxidation

The chemical reaction of glucose with proteins and fats that occurs over a lifetime produces **advanced glycation end-products** (AGEs) and **advanced lipoxidation end-products** (ALEs).[104] These deadly molecules cause oxidative and inflammatory damage to mitochondria, hastening mitochondrial dysfunction and aging.[105-109] Specific compounds have been shown to provide *targeted mitochondrial defense* against **glycation** and the inflammation it produces.

- **Carnosine** is a nutrient comprised of two amino acids. It's a natural antioxidant and anti-glycation molecule proven to reduce reactive oxygen and nitrogen species resulting from chronic glucose exposure, while also binding to potentially dangerous metal ions (chelation). These features make it attractive as an anti-aging, anti-Alzheimer's agent.[110-112]
- **Luteolin** is a flavonoid with potent anti-inflammatory effects.[113,114] It directly inhibits AGE formation at early, middle, and late stages in their development–more powerfully than standard chemical AGE-inhibitors.[115,116] It also directly counters the sugar-induced mitochondrial damage caused by reduction in a survival protein called Bcl-2.[117]
- **Benfotiamine** is a fat-soluble form of thiamine (vitamin B1). Its higher bioavailability allows it to strongly increase glycation-fighting thiamine levels in blood and tissues in normal people and in people with either type 1 or 2 diabetes.[118-120] Benfotiamine powerfully reduces AGE production and damage to vascular endothelial cells under high-glucose conditions.[121,122] It blocks three distinct pathways of sugar-induced tissue damage to protect against retinal damage in diabetes.[123]
- **Pyridoxal -5'-phosphate** (PLP) is the biologically active form of vitamin B6. It is a powerful inhibitor of both protein and fat glycation.[124,125] Glycation reductions by PLP are credited with reducing sugar-induced blood vessel and kidney damage from diabetes.[126,127]

Each of these nutrients works through distinct pathways, acting as a "therapeutic cocktail" that provides maximum protection against glycation-induced toxicity and mitochondrial damage.[128]

much this has to do with mitochondrial dysfunction in skin cells: skin biopsies from older people show substantially less mitochondrial function than those from younger people.[60]

Increased oxidative damage from diminished mitochondrial function has been shown to trigger inflammation and launch protein-destroying enzymes into action. Over time this leads to a weakening of the delicate matrix of skin tissue, spots, wrinkles, dryness—even cancer.[61] Many studies show that topical CoQ10 treatment inhibits inflammatory cytokines, reduces wrinkling enzyme production, and improves the appearance and radiation-resistance of older skin.[61-63] Boosting CoQ10 through oral supplementation also affords vital protection.[64]

Mitochondrial Protection with a Potent Adaptogen

Long known to Ayurvedic practitioners for its healing power, ***shilajit*** is an organic substance harvested from biomass high in the Himalayas.[65,66] It acts as a powerful ***adaptogen***, providing broad systemic defense against stress and illness. Cutting-edge scientific analysis has isolated ***humic substances*** as the principal active ingredients that enhance mitochondrial energy flow.[67]

In 2009, a series of landmark studies detailed for the first time how shilajit works on energy metabolism.

Mice subjected to strenuous exercise underwent expected ATP declines in muscle, blood, and brain tissue. **When supplemented with shilajit, ATP loss was sharply reduced.**[68] Other biochemical markers of energy status also dramatically improved in the supplemented animals—including levels of CoQ10, which fell twice as fast in control mice as in supplemented animals. When given in combination, CoQ10 and shilajit displayed a powerful ***synergistic effect.*** Energy parameters such as CoQ10 levels increased significantly more than with either supplement alone.

Further analysis brought some of its key *mechanisms of action* to light. **Shilajit** contains two primary components, **fulvic acid** and **DBPs** (dibenzo-a-pyrones). **Fulvic acid** independently stimulates mitochondrial energy metabolism, protects mitochondrial membranes from oxidative damage, and helps channel electron-rich **DBPs** into the mitochondria to support the electron transfer chain.[69,70] Fulvic acid works as an electron "shuttle," augmenting CoQ10 to speed electron flow within mitochondria.[71-73]

The DBPs in shilajit serve as electron "reservoirs," replenishing electrons lost by CoQ10 when it donates them to free radicals (thereby neutralizing them).[70,74]

When laboratory mice are supplemented with oral CoQ10 alone, CoQ10 levels rise in heart, liver, and kidney tissue, as might be expected.[75] When DBPs from ***shilajit*** are added to the supplement, CoQ10 levels rise still further—as much as **29%** in the liver.[75]

A recent study suggests that DBPs from shilajit preserve CoQ10 in its superior ***ubiquinol*** form.[75]

Preliminary findings suggest that shilajit protects human tissue from lost energy in the form of ATP, while maximizing benefits from CoQ10, with dramatic improvement in exercise performance.[76] In an as-yet unpublished study, people who took shilajit **200 mg** once daily for 15 days registered **14%** higher post-exercise ATP levels in the blood—equivalent to levels in people who hadn't exercised at all. The average number of steps they took on a standardized dynamic exercise test rose significantly, and their mean fitness scores increased by **15%**—without any intervening exercise training.

In pre-clinical studies, shilajit has been shown to possess a number of additional benefits, allowing it to work *in synergy* with CoQ10 to protect and support mitochondrial health:

- Preliminary unpublished studies showed that shilajit (**250 mg** twice daily for 90 days) lowered fasting **blood sugar** and a measure of **systemic inflammation** called the ESR (erythrocyte sedimentation rate), while increasing hemoglobin levels and platelet counts.[77,78]
- Shilajit protected laboratory rats from developing chemically-induced **diabetes** through its free-radical scavenging properties.[70]
- Shilajit *augmented* learning acquisition and memory retrieval in laboratory rats while reducing manifestations of anxiety during maze experiments.[70]
- Shilajit reduced levels of the enzyme *acetylcholinesterase* that destroys the vital neurotransmitter **acetylcholine**. This effect may help to prevent or treat Alzheimer's disease by maintaining levels of the neurotransmitter.[70]
- Shilajit increased levels of the neurotransmitter **dopamine** in rat brains, making it an attractive candidate for treatment of Parkinson's disease and other movement disorders.[70]
- In pre-clinical studies, shilajit produced significant increases in the endogenous antioxidants ***superoxide dismutase*** (SOD), ***catalase***, and ***glutathione peroxidase*** in brain tissue. Increased levels of these enzymes protect vulnerable brain cells against the oxidative damage that leads to brain aging and cognitive decline.[70]

A Complementary Coenzyme

Lipoic acid is a naturally occurring compound found in mitochondria. Like CoQ10, it is a ***coenzyme*** required for proper function of the mitochondrial energy chain.[4] Lipoic acid directly increases ATP production in mitochondria.[79] Clinical models indicate that lipoic acid may serve as a first-line defense for diseases involving impaired energy utilization, including diabetes and the nerve damage associated with it.[80-82]

R-alpha-lipoic acid is the most bioactive *form* of lipoic acid—and a powerful activator of mitochondrial energy complexes.[83,84] Studies in aging animals support the use of R-alpha-lipoic acid to improve mitochondrial function, decrease oxidative damage, and increase metabolic rate, all of which otherwise become impaired with aging.[4]

R-alpha-lipoic acid has been proven effective in reducing symptoms of diabetic neuropathy, without significant adverse reactions.[81,85] It also increases nerve conduction velocity in people with diabetic neuropathy, crucial to improved nerve signaling.[86]

Experts attribute these effects to diminished fat oxidation in nerve cell membranes and improvements in local blood supply around nerves resulting from improved mitochondrial functioning.[87,88]

R-alpha-lipoic acid displays many protective effects. It reverses the age-related increase in liver cell damage caused by exogenous toxins, helping to protect liver function.[89] It prevents brain cells from becoming depleted of the natural antioxidant *reduced glutathione,* an important intracellular antioxidant in the body. Deficiency of *reduced glutathione* can predispose people to liver failure, Parkinson's disease, and other neurodegenerative conditions.[90,91] A therapeutic dose of **600 mg/day** even helped relieve migraine attack rates—an observation that may support the theory that migraines may be partially *caused* by impaired mitochondrial function.[92]

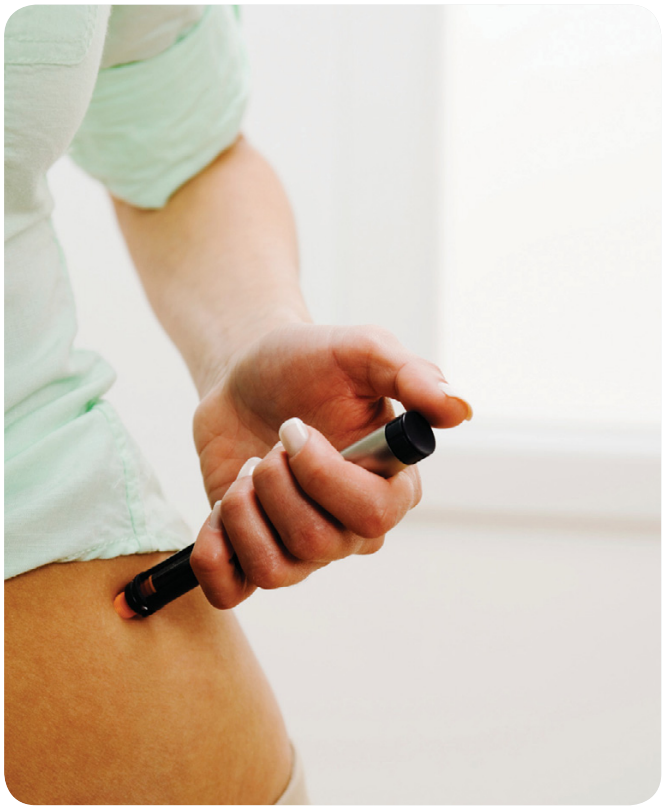
As you might expect of a mitochondrial energy booster, lipoic acid may also play a role in helping to ward off cardiovascular disease. Three months of lipoic acid supplementation provided pain relief to patients with **peripheral vascular disease** (PVD), extending the time they could walk before pain occurred.[93] Combined therapy with acetyl-L-carnitine improved blood vessel relaxation and blood flow, while reducing blood pressure, in patients with coronary artery disease.[94] And combined supplementation is a very good idea, as we'll see next.

Your Mitochondrial Fat-Burner

L-carnitine is a molecule required for helping transport fatty acids into the mitochondria, where they can be burned as fuel. Acetyl-L-carnitine (ALC) is the *form* of carnitine optimally absorbed through oral delivery. It has also been shown to boost mitochondrial health, facilitating fuel delivery to the electron transport chain, where supplements like CoQ10, shilajit, and lipoic acid take over.

Total carnitine levels diminish with age, a decline that may also be accelerated by overeating and diabetes.[95] As with other mitochondrial energy optimizers, ALC supplementation possesses distinct benefits across numerous physiological systems.[96]

A review of clinical studies shows that ALC may slow the natural course of Alzheimer's disease.[97] It has substantially increased Alzheimer's disease patients' responses to drug treatment, from **38%** to **50%** in one study.[98] ALC also protects brain tissue against destructive effects of hypoxia (low oxygen), by supporting cellular metabolism.[99] ALC and lipoic acid supplementation partially restored depleted brain mitochondrial activity in aged rats to that of young adults.[100]



The combination of ALC with lipoic acid improved cognitive function in a mouse model of Alzheimer's disease.[101] ALC alone has exhibited powerful effects, restoring aging animals' cardiac energy metabolism to that of young adults.[102] In combination with lipoic acid, ALC helps maintain heart muscle function in aging animals as well.[103]

Summary

Mitochondrial dysfunction is linked to a broad range of degenerative illness, from diabetes and neurological disorders to heart disease. Researchers have discovered that age-related mitochondrial dysfunction—which can ultimately lead to DNA damage and cell death—may be prevented and even *reversed*. The key lies in early and sustained interventions that support optimal mitochondrial health and function. CoQ10 in its superior *form* as **ubiquinol** may restore mitochondrial function. The organic adaptogen ***shilajit*** acts in synergy with ubiquinol, further enhancing mitochondrial function. R-alpha-lipoic acid and acetyl-L-carnitine have been shown in clinical studies to provide additional mitochondrial support. ●

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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SUPERCHARGED ASCORBIC ACID!

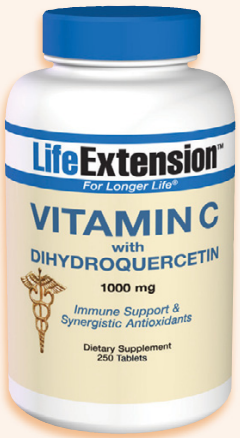
Vitamin C Tabs
with Dihydroquercetin

Since it was first isolated nearly 80 years ago, **vitamin C** has been deemed essential for life and for maintaining optimal health and well-being. Its potent antioxidant properties and critical role in facilitating essential biochemical reactions throughout the body have made **vitamin C** the world's most widely consumed nutritional supplement.

Because humans do not manufacture **vitamin C** internally, it must be obtained through dietary sources or supplements. Few people realize, however, that **vitamin C** is a *water-soluble* nutrient that is quickly oxidized and excreted by the body,[1] which limits its efficacy. Until now, those seeking to capture **vitamin C**'s optimal health benefits have had no choice but to consume it several times throughout the day.

Fortunately, a *flavonoid* antioxidant known as ***dihydroquercetin*** functions as a **vitamin C** "supercharger." Studies demonstrate that *dihydroquercetin* acts to inhibit the oxidation of **vitamin C**, thereby helping to maintain its concentration and to recycle **vitamin C** throughout the body.[2,3] This synergistic relationship between *dihydroquercetin* and **vitamin C** greatly enhances the efficacy of both molecules in the body's organs and tissues.

Vitamin C with Dihydroquercetin was formulated for those seeking to obtain optimal efficacy and antioxidant protection from their vitamin C supplement. The suggested daily dose of one tablet of this formula supplies **1000 mg** of **vitamin C** (as ascorbic acid), along with **10 mg** of ***Dihydroquercetin-3-rhamnoside***, a highly bioavailable form of dihydroquercetin derived from grape leaf extract.



ITEM #00927

A bottle containing 250 tablets of **Vitamin C with Dihydroquercetin** retails for $25.50. If a member buys four bottles during **Super Sale**, the price is reduced to just **$15.69 per bottle.**

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To order VITAMIN C with Dihydroquercetin, call 1-800-544-4440 or visit www.LifeExtension.com

Fight Back Against Aging!

Aging is Characterized by Inflammation, Glycation, and Mitochondrial Decay

The loss of cellular vitality is caused by a number of factors, including **mitochondrial problems**, **glycation**, and **free-radical reactions**. Life Extension® members have access to a state-of-the-art nutritional formula called **MITOCHONDRIAL ENERGY OPTIMIZER** that helps protect delicate cellular structures and enables cells to perform life-sustaining metabolic processes.

MITOCHONDRIAL ENERGY OPTIMIZER is designed to counteract age-related structural and functional changes by providing the following unique ingredients:

- **CARNOSINE** As humans age, proteins in their bodies become **irreversibly damaged** by **glycation** reactions. *Glycation* is the cross-linking of proteins and sugar to form **non-functioning** structures (Advanced Glycation End-Products or "AGEs") in the body, which can lead to alterations of normal cell function. **Carnosine** is not only a powerful **anti-glycating** agent, but it also protects **neurons** against reactive and cytotoxic protein carbonyl species associated with normal aging.[1-5]
- **LUTEOLIN** Systemic inflammation is involved in most undesirable consequences of aging. Culprits behind **chronic inflammatory** reactions are pro-inflammatory **cytokines**, such as **interleukin-1** and **tumor necrosis factor alpha**. *Luteolin* is a super-potent plant extract that has been shown to modulate these dangerous inflammatory cytokines.[6-11]
- **BENFOTIAMINE** Effectively modulates multiple destructive biochemical pathways, including AGEs' formation pathway, which are induced by higher than desirable blood glucose levels. Human mortality studies indicate that *ideal* fasting glucose levels are between **74–85** mg/dL. Yet many aging people have fasting glucose above **90** mg/dL, which is less than optimal.[12-14] Benfotiamine protects endothelial cell integrity from the effects of high glucose levels. In addition, benfotiamine exhibits direct antioxidative capacity and prevents induction of DNA damage.[15]
- **PYRIDOXAL 5'-PHOSPHATE** Aging results in the formation of **advanced glycation end-products** throughout the body. **Pyridoxal 5'-phosphate** is the active form of vitamin B6 that has been shown to protect against both lipid and protein **glycation** reactions.[16-19]
- **R-LIPOIC ACID** Destructive free-radical activity in the **mitochondria** plays a major role in the loss of cellular vitality. A microencapsulated Bio-Enhanced® **R-lipoic acid** facilitates youthful **mitochondrial energy output** while guarding against **free radicals**. Two forms of lipoic acid are sold on the supplement market, but **R-lipoic acid** is far more potent.[20-23]
- **ACETYL-L-CARNITINE ARGINATE** The amino acid L-carnitine is required to transport fats into the **mitochondria** to be burned for cellular energy. **Acetyl-L-carnitine arginate** is a patented form of carnitine that also **supports neurites** in the brain.[24]

Taking all of the individual ingredients in the **Mitochondrial Energy Optimizer** separately would be prohibitively expensive, but Life Extension® members obtain this comprehensive formula at substantial savings.

A bottle of **Mitochondrial Energy Optimizer** containing **120 capsules** retails for $86. If a member buys four bottles during **Super Sale**, the price is reduced to **$52.65** per bottle.

Just four capsules of the Mitochondrial Energy Optimizer provide:

Carnosine	1000 mg
Acetyl-L-carnitine arginate DiHCl	700 mg
Bio-Enhanced® R-Lipoic acid (microencapsulated)	150 mg
Benfotiamine	150 mg
Pyridoxal 5'-Phosphate	100 mg
Luteolin	8 mg

ITEM #01368

Bio-Enhanced® is a registered trademark of GeroNova Research, Inc.

To order Mitochondrial Energy Optimizer, call 1-800-544-4440 or visit www.LifeExtension.com

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Life Extension Mix™

Tablets, Capsules, or Powder…Your Choice!

Consumers take dietary supplements to obtain concentrated doses of some of the beneficial nutrients found in fruits and vegetables. Commercial multivitamins, however, do not provide all the vital plant components that scientists have found are needed to maintain good health.

Life Extension Mix™ is formulated based on findings showing that consuming lots of **fruits and vegetables** dramatically **lowers the risk** of health problems. **Life Extension Mix™** provides concentrations of the **fruit and vegetable extracts** that researchers have found protect against a wide variety of cellular insults.

Life Extension Mix™ has been upgraded to provide **pterostilbene**, more **iodine** and more **vitamin D3** at no additional cost. **Life Extension Mix™** is available in tablet, capsule, and powder forms, with or without copper, and with or without extra niacin.

Item # 01455

LIFE EXTENSION MIX™ 315 TABLETS

	RETAIL PRICE EACH BOTTLE	SUPER SALE MEMBER PRICE EACH BOTTLE
1 BOTTLE	$98	$66.15
4 BOTTLES	$86	$58.05
10 BOTTLES	$69.50	$46.91

The regular 94-ingredient caplet version of Life Extension Mix used by most members contains 73 mg of niacin and 1 mg of copper. There is an extra-niacin version that provides 345 mg of niacin at no additional charge. Niacin is used to help maintain healthy cholesterol, triglyceride and fibrinogen levels in those within normal ranges. Some people find the niacin "flush" unpleasant. Those with underlying liver disease sometimes cannot tolerate any niacin (or beta-carotene). Either one of these versions can be obtained without copper. The suggested dose is 9 tablets per day in divided doses with meals.

Item # 01454

LIFE EXTENSION MIX™ 490 CAPSULES

	RETAIL PRICE EACH BOTTLE	SUPER SALE MEMBER PRICE EACH BOTTLE
1 BOTTLE	$110	$74.25
4 BOTTLES	$98	$66.15
10 BOTTLES	$85	$57.38

The encapsulated version of Life Extension Mix used by many members provides 1 mg of copper. These capsules are also available without copper. The suggested dosage is 14 capsules per day in divided doses with meals. Capsules are easier to swallow for some people than tablets.

Item # 01456

LIFE EXTENSION MIX™ 14.81 Oz POWDER

	RETAIL PRICE EACH BOTTLE	SUPER SALE MEMBER PRICE EACH BOTTLE
1 BOTTLE	$98	$66.15
4 BOTTLES	$86	$58.05
10 BOTTLES	$72	$48.60

The powder version of Life Extension Mix contains 1 mg of copper. This powder version is also available without copper. The suggested dose is three scoops per day in divided doses with meals. Because there are so many different ingredients, the powder can be difficult for some people to easily mix. Some people use a blender to combine the Life Extension Mix™ powder with whey protein and other powdered supplements.

To order your supply of LIFE EXTENSION MIX™ during Super Sale, call 1-800-544-4440 or visit www.LifeExtension.com/SuperSale

The Latest Advance in CoQ10 Technology

Life Extension® was the first to introduce **coenzyme Q10** to the United States way back in **1983**. Since then, we have consistently introduced more ***potent*** and better ***absorbable*** forms of this critical nutrient.

The new **Super Ubiquinol** with **Enhanced Mitochondrial Support**™ contains an organic compound called **PrimaVie**® **shilajit** that research shows **doubles** levels of **CoQ10** in the **mitochondria**.[1]

Shilajit has been shown to help restore and sustain ***cellular energy***. The latest studies reveal that when **shilajit** is combined with **CoQ10**, *cellular energy* gains substantially increase.

In a breakthrough preliminary study, the combination of CoQ10 and **shilajit** produced a ***56%*** increase in cellular energy production in the **brain**—***40%* better** than CoQ10 alone. In **muscle** there was a ***144%*** increase, or ***27%* better** than CoQ10 alone.[2]

Researchers have found that **shilajit** works to boost **CoQ10**'s beneficial effects by:

1. Stabilizing CoQ10 in its superior **ubiquinol** form, thereby *prolonging* its action at the cellular level.[3,4]

2. Facilitating more efficient *delivery* of CoQ10 into the *mitochondria*, resulting in greater cellular energy output.[5-9]

Scientific analysis shows that **shilajit** itself is rich in essential compounds that promote mitochondrial metabolism. Part of **shilajit**'s beneficial effects derives from its ability to help the mitochondria convert **fats** and **sugars** into adenosine triphosphate, or ***ATP***—the body's main source of energy.[5-9]

PrimaVie® is a registered trademark of Natreon, Inc.
Kaneka QH® is a registered trademark of Kaneka Corporation.

The new Super Ubiquinol CoQ10 with Enhanced Mitochondrial Support™

Combining ubiquinol **CoQ10** with **shilajit** generates a powerful *synergy* that supports more youthful cellular energy production than CoQ10 alone.[2,4,5] What's more, Life Extension has added this novel ingredient to its CoQ10 formulations without increasing the price! So you get a more effective CoQ10 at the same cost!

The retail price for 60 100-mg softgels of **Super Ubiquinol CoQ10 with Enhanced Mitochondrial Support™** is **$62**. If a member buys four bottles during **Super Sale**, the price is reduced to **$37.80** 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 during **Super Sale**, the price is reduced to **$35.78** per bottle. Item #01425

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

Item #01426 Item #01425

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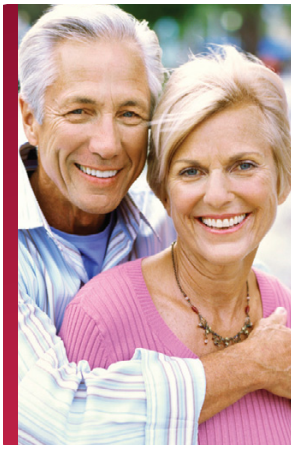

Discount Prices For Premium-Quality Products

Life Extension® members are longevity enthusiasts, willing to take extraordinary steps to stave off disease, aging, and death. When members buy products from the **Life Extension Foundation Buyers Club**, they are assured of receiving the highest quality products based on the latest scientific studies that demonstrate benefits.

The **large discounts** available to Foundation members enable them to purchase **premium-quality** supplements at prices substantially below those charged by commercial companies.

Here are some examples of **savings** members enjoy during the annual **SUPER SALE**:

	Our Low Retail Price	SUPER SALE Member-Volume Discount Price Per Bottle
Calorie Restriction Mimetic Formula, 60 vegetarian capsules, Item #01419 Provides in two capsules, **250 mg** of ***trans* resveratrol**, the highest dose (**3 mg**) of **pterostilbene**, more **quercetin**, plus beneficial **grape seed** and **black tea polyphenols**, all to help favorably support the healthy ***gene expression*** observed in response to **calorie restriction**	$36	**$22.28** (four-bottle purchase)
Super Omega-3 EPA/DHA with Sesame Lignans & Olive Fruit Extract, 120 softgels, Item #01482 Super-refined highly concentrated EPA/DHA fish oil plus sesame lignans and more potent olive fruit extract	$32	**$16.81** (ten-bottle purchase)
Super Ubiquinol CoQ10 with Enhanced Mitochondrial Support™, 100 mg, 60 softgels, Item #01426 Preferred "ubiquinol" combined with shilajit, an organic compound shown to double levels of CoQ10 in the mitochondria	$62	**$35.10** (ten-bottle purchase)
Optimized Irvingia with Phase 3™ Calorie Control Complex*, 120 vegetarian capsules, Item #01492 Combats age-related fat accumulation via eight distinct mechanisms	$78	**$48.60** (four-bottle purchase)
Vitamin D3 with Sea-Iodine™, 5000 IU, 60 vegetarian capsules, Item #01372 High-potency vitamin D plus 1000 mcg of natural iodine	$14	**$8.44** (four-bottle purchase)
Ultra Natural Prostate Formula, 60 softgels, Item #01475 Now with more potent Saw Palmetto to support normal urinary flow and help support healthy prostate function	$38	**$21.60** (twelve-bottle purchase)
Prelox® Natural Sex for Men®, 60 tablets, Item #01373 Supports healthy endothelial function and blood flow for maximum male performance	$50	**$29.90** (four-bottle purchase)
DHEA (Dehydroepiandrosterone), 25 mg, 100 capsules, Item #00335 Anti-aging benefits for overall health	$15	**$8.44** (four-bottle purchase)
Arthro-Immune Joint Support, 60 vegetarian capsules, Item #01404 Combines two clinically proven plant extracts to support healthy joint structure and function	$30	**$18.23** (four-bottle purchase)
Natural Stress Relief, 30 vegetarian capsules, Item #00987 With lemon balm extract to reduce occasional anxiety and sleeplessness, and pure L-theanine to promote relaxation without drowsiness	$28	**$16.20** (four-bottle purchase)
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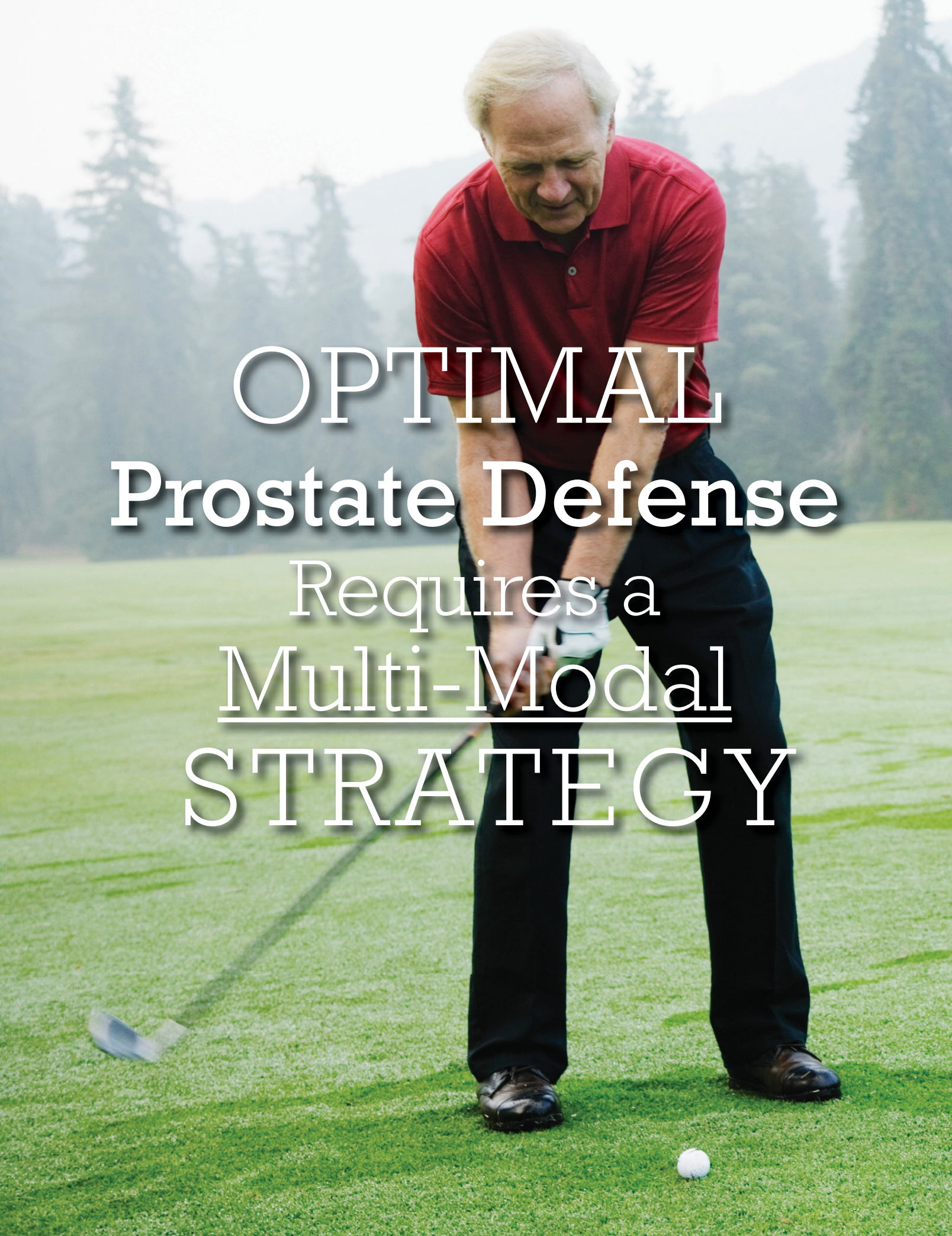

OPTIMAL
Prostate Defense
Requires a
Multi-Modal
STRATEGY

BY JULIUS GOEPP, MD

As an aging man, your odds of suffering **benign prostate enlargement** (BPH) and/or **prostate cancer** are exceedingly high.

BPH will afflict **50%** of men over the course of their lives.[1,2] At advanced stages, BPH can almost *completely obstruct* the urethral canal, leading to a host of lower urinary tract symptoms.[3,4]

Prostate cancer remains the second leading cause of cancer death in men, accounting for more than **28,000 deaths** and **186,000 new cases** in 2008 alone.[5]

This article reviews eight clinically supported interventions with outstanding safety records to protect prostate health. > >

Saw Palmetto—Front Line Defense!

Used by over **2 million** men in the United States, saw palmetto (*Serenoa repens*) remains the front line fighter in natural prostate defense, with a substantial body of clinical investigation and support.[6] Extracts from the ripe red berries of the plant are rich in bioactive plant-based compounds, including **beta-sitosterol** and a host of vital free fatty acids.[7-9]

The natural ingredients in saw palmetto benefit the prostate in several related ways. They *inhibit* enzymes that convert testosterone into dihydrotestosterone (DHT),[10] a hormone that increases prostate growth and may promote cancer.[11] They bind to DHT receptors on prostate cells, further reducing DHT's potential negative impact.[10] And they block certain transmitters that can aggravate lower urinary tract symptoms.[10,12,13]

These multiple mechanisms account for saw palmetto's therapeutic effects in managing BPH. In a summary of **18** clinical trials involving **2,939 men**, saw palmetto alleviated lower urinary tract symptoms (LUTS) and urine flow measures more effectively than placebo.[14] The same analysis also demonstrated that men taking saw palmetto had significantly less nighttime urination (*nocturia*). The analysis also indicated additional benefit by combining saw palmetto with other phytonutrient extracts, including **nettle root** and bark of the African plum tree ***Pygeum africanum***.

When placed head-to-head against prescription drugs like *finasteride* (Proscar®) and *tamsulosin* (Flomax®), saw palmetto was as effective in improving urinary symptom scores and peak urinary flow rates.[6,15,16] Of even greater interest, men given saw palmetto experienced a lower incidence of **associated sexual dysfunction** compared to those given pharmaceuticals![15]

In fact, few adverse effects have ever been confirmed with saw palmetto extract.[17]

The complex of plant-based chemicals (*phytosterols*) in the saw palmetto berry has been shown to exert a suppressive effect on prostate cancer cells. Saw palmetto's high **beta-sitosterol** content—along with other constituents within its phytosterol complex—*inhibit* prostate cancer cell proliferation by selectively arresting cell growth and inducing programmed cell death (*apoptosis*).[9,18,19] The **carotenoids** contained in saw palmetto also act in tandem with this phytosterol complex to attack cancer cell membranes and slow tumor growth.[8,19,20] Despite these impressive findings, saw palmetto should not be considered a primary treatment for prostate cancer.

The Complementary Power of Nettle Root

In numerous studies, the root of stinging nettle (*Urtica dioica*) has been shown to exert favorable effects on prostate health that complement those of saw palmetto. Stinging nettle appears to modulate hormone activity in prostate tissue. It also possesses powerful anti-inflammatory and antimicrobial effects—with very low toxicity.[24,25] Animal studies further indicate its ability to restrict prostate tissue growth.[26]

Controlled clinical research has demonstrated nettle extract's power to counter and even *reverse* the effects of benign prostatic hypertrophy (BPH). In a double-blind, placebo-controlled study of **558** patients with BPH, nettle extract improved LUTS by **81%**, compared with just **16%** of controls.[27] It also significantly increased peak urine flow rates compared with placebo.

When combined with saw palmetto, nettle root extract displays even more impressive effects on BPH. One large study found that the combination was as

effective as the drug *finasteride* (Proscar®) at reducing symptom scores and increasing urine flow, but produced far fewer adverse events.[28] Other studies have demonstrated the combination's superior performance over placebo in trials lasting up to 96 weeks—with virtually no side effects.[29]

Nettle root extract may also fight prostate cancer, reducing cancer cell proliferation without affecting normal tissue.[30] It blocks the enzymes that cancer cells need for rapid turnover.[31] The *lectins* in nettle root extract—proteins involved in cell recognition—display a preference for cancer cells over healthy ones, enhancing nettle root's ability to attack malignant cells and induce production of the cancer-suppressing cytokine interleukin-2 (IL-2).[32] As with saw palmetto, nettle root extract alone is not sufficiently effective to be used as a curative treatment for prostate cancer.

Potent Prevention with Flax and Norway Spruce Lignans

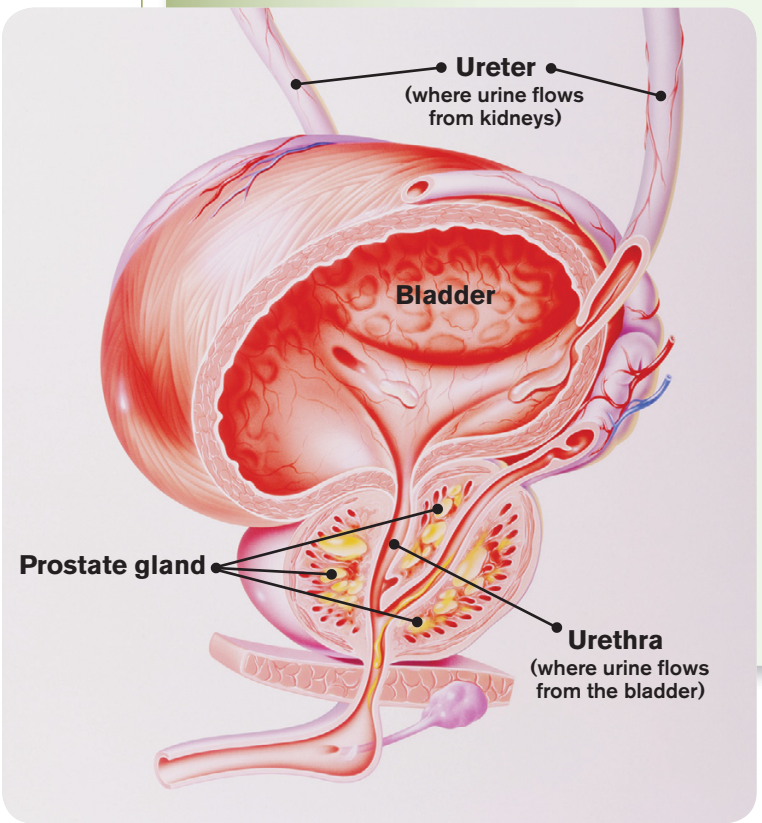
Plants evolved *lignans* to defend against disease. As it happens, their health-promoting benefits are passed on to us when ingested.[33] Resident bacteria in our colon convert these plant lignans into the mammalian lignan *enterolactone*, a phytoestrogen that has been shown to suppress numerous cancers, particularly hormone-dependent types—including prostate and breast cancer.[34-36] Lignans from flax, Norway spruce (*Picea abies*), and other sources may help prevent both BPH and prostate cancer.

Recent studies have revealed that *flax seed* lignan extract produces improvements in LUTS and quality of life, while also lowering plasma cholesterol and glucose concentrations.[37,38]

The evidence for their preventive power against prostate cancer is equally compelling. Foods high in plant lignans are associated with lower prostate cancer risk.[39] Enterolactone derived from dietary plant lignans has been shown to induce apoptosis (cell death) in cultured human prostate cells.[40,41] In a clinical setting, flax seed-supplemented diets generated favorable reductions in tumor proliferation rates in men with prostate cancer in as little as ***30 days***.[42] Lignans derived from the Norway spruce have demonstrated powerful anti-cancer effects in an animal model of human prostate cancer, including smaller tumor volume and increased apoptosis.[43]

Prostate Defense

- Adverse prostate conditions will affect at least half of all men after the age of 50, and 1 in 6 men will be diagnosed with prostate cancer during his lifetime–claiming as many as 28,000 lives each year in the United States.
- Technological advances in extraction techniques optimize the already well-known benefits of saw palmetto extracts.
- Saw palmetto extracts possibly fight BPH and prostate cancer by directly blocking hormone conversion in prostate tissue, and by modifying expression of genes that contribute to cancer development.
- A diverse array of complementary, natural interventions operate across multiple pathways to disrupt prostate diseases at every stage in their development.
- Both alone and in combination, they can be as effective as pharmaceuticals–*without* undesirable side effects, including sexual dysfunction.



Advanced Technology Preserves Saw Palmetto's Bioactive Compounds

The harsh chemical processes and low-pressure techniques often used to extract the saw palmetto berry's bioactive ingredients paradoxically *destroy* many of them. An advanced high-pressure CO_2 extraction technology has been developed that delivers *intact* a far greater proportion of saw palmetto's beneficial, high molecular-weight compounds. The result is a carotenoid-rich extract that most closely reflects the composition of mature saw palmetto berries compared to typical saw palmetto extracts. Carotenoids have demonstrated protective effects against various prostate disorders.[21-23]

Novel *Boswellia* Extract

A novel extract from *Boswellia serrata,* also known as Indian frankincense, has demonstrated potential in prostate health protection.[44] It acts as a powerful ***5-lipoxygenase*** inhibitor. The enzyme ***5-lipoxygenase*** (5-LOX) inflicts numerous adverse effects[45] that have been implicated in prostate cancer development. Boswellia extract also favorably modulates gene expression, powerfully suppressing production of pro-inflammatory cytokines involved in BPH and prostate cancer.[46,47] The anti-inflammatory effects of boswellia extracts have been demonstrated in human studies,[48] making it an attractive component of BPH prevention.

Research further indicates that boswellia is particularly effective in controlling proliferation of prostate cancer cells. Inhibitors of 5-LOX induce apoptosis in prostate cancer cells through the aptly-named "death receptors" that trigger cancer cell suicide.[49,50] This extract also blocks prostate cancer growth and proliferation in cell cultures.[51] These effects are due in part to its ability to decrease the androgen receptors that many prostate cancers require to survive.[52] Boswellia extracts also inhibit new blood vessel growth (*angiogenesis*), depriving malignant tissues of the nutrients and oxygen they need to metastasize.[53]

Pygeum Africanum

The bark of the African plum tree, *Pygeum africanum*, contains powerful compounds that support the health of prostate and bladder tissue.[54] Pygeum extracts were proven effective against BPH in numerous open and placebo-controlled studies in the 1990's, and pygeum is now recognized in Europe as a standard therapeutic option.[55] Pygeum and beta-sitosterol in doses of **50-100 mg** twice daily improve lower urinary tract symptoms and significantly increase urine flow rates, while decreasing residual urine volume in the bladder that can lead to urinary tract infections.[56-59]

Pygeum extracts also appear to offset the sexual dysfunction that often accompanies BPH and results in overall improvement in quality of life.[60] One unique mode of action seems to be that pygeum extracts actually inhibit proliferation of the muscle and fibrous tissue in the prostate that help contribute to BPH in the first place.[61,62] Adverse effects associated with pygeum are rare and mild,[63] though some gastrointestinal upset has been reported.

Numerous studies have recently emerged demonstrating pygeum's prostate cancer-fighting potential. Pygeum extracts block the male hormone (*androgen*) receptors that prostate cancer cells need to thrive.[64] As with the other chemoprotective compounds reviewed in this article, pygeum has been shown to inhibit cancer cell growth and proliferation, while stimulating desired apoptosis (programmed death of cancer cells).[65] And pygeum's androgen-blocking constituents reduce cancer cells' potential to invade healthy prostate tissue, reducing spread of dangerous tumors.[66]

Saw palmetto extract is one of several natural compounds with clinically proven value in reducing symptoms of BPH and risk factors for prostate cancer.

Novel Flower Pollen Compound

Over two decades of research have confirmed that a specific compound of flower **pollens**, called ***cernitin***, possesses unique effects on prostate tissue.[67-70] It relaxes certain smooth muscle tissues in the urinary tract,[71] thus potentially alleviating lower urinary tract symptoms associated with BPH. It has been shown to significantly alleviate symptoms of bladder obstruction in men with BPH, while reducing residual urine volume and shrinking the size of the prostate itself.[67] One major study found cernitin worked as well as six prescription drugs commonly used for BPH.[72]

Cernitin significantly decreased inflammatory cytokines and tissue inflammation in a rat model of nonbacterial prostatitis, a painful chronic condition that afflicts many men.[73] This may render it an ideal candidate both for the management of BPH and for a complication of chronic prostatitis called **chronic pelvic pain syndrome**, which has proven difficult to treat with standard medication.[74,75]

In **2009**, a multicenter, randomized, double-blind, placebo-controlled study showed that cernitin significantly improved measures of pain and quality of life in men with category III prostatitis/chronic pelvic pain syndrome, a prevalent condition for which no standardized treatment exists. Overall prostatitis symptom scores were also significantly reduced compared with placebo, *without* major side effects.[76]

Higher doses of cernitin appear to provide faster relief of symptoms.[77]

Unique Mineral Protection

The trace element **boron** combats prostate cancer through a unique combination of underlying mechanisms. Calcium channel signaling is a major regulator of cancer cell proliferation, and yet has received little attention in cancer prevention. Higher boron levels in the blood lower the risk of prostate cancer by reducing intracellular calcium signals and storage.[78] At normal concentrations, boron operates *selectively*, inhibiting prostate cancer cell proliferation while allowing healthy prostate cells to grow.[79]

In animal models boron supplementation inhibited growth of human prostate cancer cells and reduced the size of implanted tumors, reducing local expression of a vital growth factor—a cancer-fighting mechanism unique to boron.[80] Another study demonstrated that when combined with **phytosterols**, boron amplifies the suppression of cancer cell growth.[81]

Several large human studies have shown that **higher dietary boron intake** lowers prostate cancer risk. In one study, men with the highest boron intake ***halved*** their prostate cancer risk compared to those with the least intake.[82]

Symptoms of Benign Prostate Hypertrophy

- Urinary hesitancy
- Urinary retention
- Painful urination
- Frequent urination
- Urinary tract infections
- Ejaculatory dysfunction

A Role for Saw Palmetto in Preventing Hair Loss?

Highly-purified saw palmetto extracts benefit the prostate gland by blocking DHT production, regulating prostate cell growth. Compelling new evidence suggests that these same hormonal effects block and even partially *reverse* hair loss in men with common male pattern baldness!

In 2002, a group of leading-edge scientists recognized that saw palmetto's DHT-blocking action might help in male pattern baldness. In a placebo-controlled, double-blind study, **60%** of men receiving the active supplement showed significant improvement.[95] A follow-up study suggests that in conjunction with specific anti-inflammatory compounds, saw palmetto may reduce expression of inflammatory genes in hair follicle cells, slashing hair loss risk.[96]

The causes of male pattern baldness are complex.[100,101] In addition to the shrinkage of hair follicles accelerated by higher DHT levels,[97,98] sustained microscopic inflammation of hair follicles and remodeling of connective tissue may contribute to making hair loss permanent. Saw palmetto has demonstrated significant reduction of inflammatory markers.[96,102] Thus, if used before hair loss is advanced, saw palmetto may be an option for addressing the underlying *causes* of male pattern baldness.

Lycopene

Lycopene is an antioxidant carotenoid found in tomatoes, watermelon, pink grapefruit, and guava. Multiple studies have found that higher intake of lycopene is associated with decreased cancer risk.[83-87] It inhibits prostate cancer cell growth in culture, halting the reproductive cell cycle and inducing apoptosis.[85,88] Lycopene possesses two unique chemopreventive features:

1. It interferes with internal sex hormone-regulated signaling among cancer cells to prevent coordinated growth.[89]
2. It disrupts DNA synthesis in growing prostate cell cultures, but also protects healthy DNA from damage.[90,91]

In an early human trial, lycopene improved post-surgical survival rates in aggressively treated patients with advanced prostate cancer, reducing levels of PSA, and shrinking both the primary tumor and metastases.[92] More recent large-scale studies of men with prostate cancer showed that lycopene—alone or in combination with phytosterols and antioxidants—slowed and even halted rising PSA levels.[93,94] A 2008 human study demonstrated that lycopene slows disease progression in men with BPH.[22]

Summary

Fifty percent of men will eventually suffer enlarged prostate from benign prostatic hyperplasia (BPH), and 1 in 6 men will be diagnosed with prostate cancer during his lifetime. These age-related changes are far from inevitable. Saw palmetto extract is one of several natural compounds with clinically proven value in reducing symptoms of BPH and risk factors for prostate cancer. Each works by uniquely different mechanisms to confer multiple benefits and effective protection. Through a combination of direct impact on prostate tissue and powerful modulation of gene expression, these compounds operate through synergistic and complementary modes of action, attacking BPH and prostate cancer on multiple fronts. Compared to single-target drugs that provide only partial relief (and come with undesirable side effects), these natural interventions provide aging men with a safe, low-cost, alternative—for lifelong prostate health. ●

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

Prostate Drugs: Limited Benefits, Sexual Side Effects

Unlike the multi-targeted benefits of natural compounds, prescription prostate drugs work through narrow, single-targeted mechanisms of action–with a significant array of side effects. These drugs fall into two principal categories.

5-Alpha Reductase Inhibitors. These drugs inhibit the enzyme that converts testosterone into its active dihydrotestosterone (DHT) form. Saw palmetto extracts work by the same mechanism, as well as many others–*without* the side effects of prescription drugs. Finasteride (Proscar®) and dutasteride (Avodart®) are the main players. Both are effective at reducing lower urinary tract symptoms (LUTS) in benign prostatic hypertrophy (BPH).[103] Finasteride is also approved for use in male pattern baldness (marketed as Propecia®).[99] Both are also undergoing clinical evaluation for prostate cancer prevention, though to date their efficacy have been uncertain or modest at best.[104]

While generally considered safe from a medical standpoint, these drugs have a troubling side effect profile, particularly related to their tendency to cause sexual problems such as erectile dysfunction (ED), ejaculatory dysfunction, decreased libido, and breast enlargement.[105-107] ED is the most common and most troubling side effect.[108] Because BPH itself can cause ED, it can be a difficult decision for men and their physicians about whether to start medication or not. A typical mainstream medical approach when faced with side effects from one drug is to add yet another drug[109] (usually drugs belonging to the following category).

Alpha-adrenergic blockers. These prevent adrenaline from acting on adrenaline receptors in prostate tissue that contribute to BPH. Their sexual side effects are somewhat less pronounced than 5-alpha reductase blockers, with the exception of their impact on ejaculation. In a study of healthy volunteers, tamsulosin (Flomax®) markedly decreased ejaculation volume in almost **90%** of subjects–and **35%** were completely unable to ejaculate.[107]

Physicians who prescribe both categories of drugs generally recognize the importance of the sexual side effects that often accompany these drugs. Patients are advised to "consider the sexual dimension" in making treatment choices.[107,110,111] Another approach is to consider the multi-targeted benefits of nutraceuticals, which are demonstrably free of these side effects–and may offer comparable benefits.[6,15,16]

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Support *Endothelial* Health for MAXIMUM Sexual Performance

Overlooked in the effort to support ***sexual function*** in aging men is the health of the ***vascular system***. Blood flow through the delicate lining of the arteries (the *endothelium*) is essential to sexual arousal, so it should come as no surprise that **endothelial *function*** is closely associated with male sexual capacity.[1]

Life Extension® has discovered supportive clinical research for a scientifically validated, *natural* dietary supplement formula to promote **endothelial function** *and* **blood flow** to the place men need it most—for maximum performance.

The ingredients found in **Prelox**® **Natural Sex for Men**® have yielded compelling and highly satisfactory results in ***five independent clinical studies.***[2-6]

Our analysis also confirms that unlike some performance enhancement supplements marketed as "natural," **Prelox**® **Natural Sex for Men**® is not adulterated with trace amounts of prescription drugs.

A Powerful *Synergy* to Support Sexual Health

The patented blend of the following *natural* ingredients positively affects the male physiology in three ways, to provide optimal support:

1. PYCNOGENOL® (standardized French maritime pine bark extract) activates ***endothelial nitric oxide synthase*** (eNO-S),[7] the enzyme required to make ***nitric oxide***. Nitric oxide (NO) *relaxes* the vessels that enable efficient blood flow —the key to healthy male sexual activity and overall vascular health. Pycnogenol® further amplifies this relaxing effect by extending the amount of time nitric oxide remains in the bloodstream.

2. L-ARGININE is the biological precursor to nitric oxide synthesis in the endothelium.[7] It interacts ***synergistically*** with Pycnogenol® to sustain nitric oxide levels sufficient for healthy sexual function.

3. ICARIIN—a natural plant extract used in traditional Chinese medicine—has been shown to ***deactivate*** the enzyme normally responsible for winding down male sexual response, further promoting sustained activity.[8] Prelox® Natural Sex for Men® contains a standardized extract providing a proprietary form of pure, high-quality icariin.

The suggested dose of two **Prelox**® **Natural Sex for Men**® tablets each day provides:

PRELOX® PROPRIETARY BLEND L-Arginine HCl, Aspartic Acid, Pycnogenol® Dried French Maritime Pine (*Pinus pinaster*) Extract (bark)	**1440 mg**
NATURAL SEX FOR MEN® *Epimedium sagittatum* Extract (aerial parts) [providing 60 mg icariin]	**120 mg**

A 60-tablet bottle of **Life Extension**® **Prelox**® **Natural Sex for Men**® retails for $50.00. If a member buys 4 bottles during **Super Sale**, the price is reduced to just **$29.90 per bottle**.

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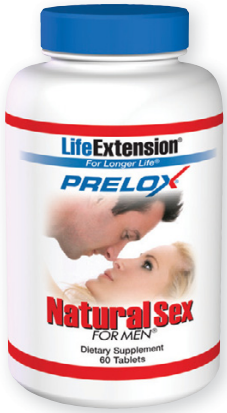
CAUTION: If you have diabetes and/or significant kidney or liver disease, please consult with your healthcare practitioner before using this product.



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To order **Prelox® Natural Sex For Men®**, call **1-800-544-4440** or visit **www.lifeextension.com**

NEW ENHANCED

Ultra Natural PROSTATE FORMULA

Standardized Lignans Now with DeepExtract™ Technology

A huge percentage of men over age 50 suffer from prostate-induced discomforts.

Ultra Natural Prostate Formula contains the most scientifically substantiated nutrients to help protect the prostate gland and maintain its healthy function.

The **nine** active ingredients in **Ultra Natural Prostate Formula** are:

- **Saw palmetto extract with DeepExtract™.** A number of normal biological events in aging men affect prostate function and structure. Saw palmetto has been shown to interfere with DHT activity in the prostate, inhibit the alpha-adrenergic receptor activity (to support normal urinary flow), and help control inflammatory actions in the prostate gland.[1,2] **DeepExtract™** is a patented, ultra-high pressure CO_2 technology engineered to recover **far *greater* amounts** of **bioactive, high-molecular weight compounds** from the saw palmetto berry during the extraction process. The result is a superior formula containing key ingredients in higher concentrations than many other extracts.[3]
- **Standardized lignans.** **Enterolactone** has demonstrated anti-estrogen and anti-DHT effects that are of particular importance for the aging prostate gland.[4-6] **Lignans** from flax and Norway spruce convert to **enterolactone** in the intestine that is then absorbed into the bloodstream where it provides significant biological effects.
- **5-LOXIN® boswellia extract.** Published studies show that normal aging and poor diet cause levels of a dangerous enzyme *(5-lipoxygenase)* to increase, which can affect prostate cells.[7] 5-LOXIN® is a patented extract from the boswellia plant that has been shown to suppress *5-lipoxygenase* in addition to other pro-inflammatory factors.[8-12]
- **Nettle root extract** *(Urtica dioica)***.** Testosterone converts to estrogen at higher rates as men age. Prostate cells are sensitive to estrogen's growth stimulatory effects. Nettle root helps support prostate cells against excess estrogen levels.[13]
- **Pygeum.** Normal aging results in levels of certain prostaglandins increasing in the prostate gland. *Pygeum africanum* extract helps suppress these prostaglandins, keeping the prostate gland placid and promoting prostate comfort.[14]
- **Beta-sitosterol.** The most biologically active constituent of pygeum is beta-sitosterol. Beta-sitosterol from other plant sources is included in this prostate support formula.[15]
- **Cernitin®.** This European pollen extract has been shown to relax smooth muscle tone of the urethra, counteract DHT, and help regulate inflammatory reactions.[15-19]

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

USPlus® Saw Palmetto (CO_2 DeepExtract™)	**320 mg**	**Phytosterol Complex** (standardized to 26.6% beta-sitosterol)	**678 mg**
Nettle root extract *(Urtica dioica)*	**240 mg**	**Boron** (from citrate, glycinate, and aspartate)	**3 mg**
Pygeum extract (11.7% pygeum sterols)	**100 mg**	**Cernitin®**	**252 mg**
5-LOXIN®	**70 mg**	**HMRlignan™**	**20.15 mg**
Lycopene extract	**10 mg**	**Norway Spruce and ActiFlax™ Flax Lignan extract**	

- **Boron.** In addition to helping protect bones, this mineral has been shown to slow elevation of prostate-specific antigen (PSA) — a benefit seeming to occur as a result of boron's positive effect on the presence of protein-degrading enzymes in the prostate gland.[20,21]
- **Lycopene.** This carotenoid associated with tomato's red color helps maintain healthy DNA gene function in prostate cells.[22-26]

Ultra Natural Prostate Formula provides scientifically validated standardized plant extracts that have been shown to promote healthy prostate function. No other prostate protection formula provides such a broad array of nutrients to support the multiple factors involved in maintaining a healthy prostate gland.

The retail price for 60 softgels of this standardized extract formula is $38. If a member buys four bottles during **Super Sale**, the price is reduced to **$23.63** per bottle. If a one-year supply is purchased, the cost drops to only **$21.60** per bottle. **Not available for export.**

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To order Ultra Natural Prostate Formula, call 1-800-544-4440 or visit www.LifeExtension.com

BY JON FINKEL

The Raw Power of Strawberries

It's common knowledge that certain berries are nutrition **powerhouses**, but when it comes to fighting a vast array of diseases and health problems, few berries stack up to the strawberry in terms of sheer health potency. From combating inflammation and controlling diabetes, to protecting cognitive function and improving heart health, strawberries can bolster your body's health in countless ways.[1]

An in vitro cell study using an extract from strawberry leaves on leukemia cells found significant cancer-killing activity, while freeze-dried strawberries slowed the growth of two varieties of cervical cancer cells grown in culture.

Strawberries' Story

Strawberries are one of the most popular berries in the world and are grown primarily in the United States, New Zealand, Japan, Australia, Italy, and Canada. There are over six hundred varieties of strawberry, all of which have the unique appearance of wearing their seeds on the outside instead of on the inside. The most common variety is called the Garden Strawberry, which is the one you are most likely to see in your local grocery store.[1]

A Major Source of Antioxidants

At the core of the arsenal of benefits that the strawberry can provide is its dense *phenol* content. The most visible of its phenols are the *anthocyanins*, which give the fruit's flesh its bright red color.[2] Anthocyanins are widely recognized **antioxidants** that studies have shown help defend cell structures in the body and protect the body's organs. Another phenol found in high doses in strawberries is *ellagitannin*, which has anti-proliferative and antioxidant properties. The combination of anthocyanins and ellagitannins, along with its high vitamin C, folate, and potassium content push it to the top of the list of antioxidant providers among fruit.[3] In fact, strawberries are second only to plums as the richest fruit in *phenols* and antioxidants, being especially high in **cancer-** and **heart disease-fighting** *flavonoids*, *quercetin*, *catechin*, and *kaempferol*.[1]

Anti-Inflammatory Properties

Life Extension Magazine® readers are familiar with vitamin C's positive effects when it comes to battling inflammation. While vitamin C is usually associated with orange-colored fruits, readers may be surprised to know that strawberries are a *tremendous source* of vitamin C. In fact, eight strawberries contain more vitamin C than an orange.[1]

In a study of 20,000 people published in the *Annals of the Rheumatic Diseases,* subjects who ate the least amount of foods high in vitamin C were more than three times more likely to develop inflammation leading to arthritis than people who ate the most vitamin C-rich foods.[4]

In addition, strawberries have potent anti-inflammatory properties because the high phenol content decreases the activity of the enzyme *cyclooxygenase*, otherwise known as COX. As a COX-inhibitor, strawberries can offer enhanced protection against *crippling* inflammation-related diseases like rheumatoid arthritis and osteoarthritis.[1]

Cancer Protection

Numerous studies have shown that strawberries offer protection against a wide range of cancers, including *breast cancer* and *colon cancer*.[5] An in vitro cell study using an extract from strawberry leaves

Picking the Perfect Strawberry

Avoid strawberries that are dull or have green or yellow patches. Strawberries don't ripen further once they are picked.

Use your sense of smell when you select strawberries at the store. When strawberries are ready to eat, they will have a flavorful "strawberry" scent.

Select medium-sized strawberries for their optimal flavor.

Ripe strawberries are firm to the touch. Avoid mushy or "soft" strawberries.

If you're selecting prepacked strawberries, make sure they aren't packed too tightly to avoid buying damaged fruit.

Nutrient	Amount per one cup	Daily Value (%)
Vitamin C	81.65 mg	136.1
Manganese	0.42 mg	21.0
Dietary fiber	3.31 g	13.2
Iodine	12.96 mcg	8.6
Potassium	239.04 mg	6.8
Folate	25.49 mcg	6.4
Vitamin B2 (riboflavin)	0.10 mg	5.9
Vitamin B5 (pantothenic acid)	0.49 mg	4.9
Omega-3 fatty acids	0.11 g	4.6
Vitamin B6 (pyridoxine)	0.08 mg	4.0
Vitamin K	3.17 mcg	4.0
Magnesium	14.40 mg	3.6
Copper	0.07 mg	3.5

on leukemia cells found significant **cancer-killing activity**, while freeze-dried strawberries slowed the growth of two varieties of cervical cancer cells grown in culture. Strawberries, even in freeze-dried *form*, have shown an ability to inhibit tumor growth and to slow the progress of tumors as they begin to develop, according to a study using rats with esophageal cancer.[1]

Heart Health

Folate is an integral part of any diet aimed at maintaining optimal heart health. In a study done by the Institute of Biochemistry in Ancona, Italy, researchers found that when subjects consumed strawberries daily for two weeks, an average **3.4%** increase in serum folate levels was observed, meaning regular strawberry intake could have a beneficial effect on folate status and cardiovascular wellness in healthy people.[6] ●

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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Advanced Colon Care With

AGAVE

DIGESTIVE-IMMUNE SUPPORT

Balancing the ecosystem of the colon is crucial to whole body health. This balance depends on inhibiting **harmful bacteria** and promoting the growth of beneficial bacteria that support immune function. While *stress*, *diet* and *age* are important factors, a strong digestive system is *essential* — it accounts for 60% to 70% of our body's immunity.[1] **Life Extension®'s Agave Digestive-Immune Support** helps **beneficial bacteria** *proliferate* in the colon for healthy immune response.

A clinically *advanced* prebiotic blend, **Agave Digestive-Immune Support** nourishes beneficial bacteria, such as *bifidobacteria*, to *enhance* immune response and suppress growth of unwanted microorganisms. This supports the body's natural response to infection.

Among the several hundred species of bacteria, *bifidobacteria* are among the most essential to colon health. Prebiotics deliver the specific nutrients they need in an *undigested* form. This enables beneficial bacteria to flourish, providing a higher level of protection and support.

AGAVE DIGESTIVE-IMMUNE SUPPORT contains *three* complementary prebiotic ingredients:

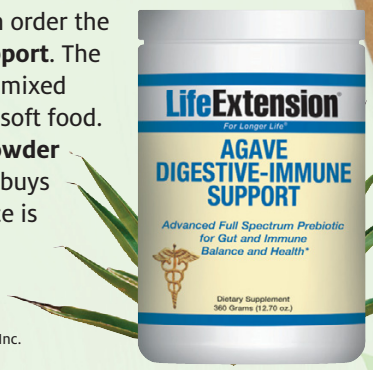
AGAVE INULIN/FOS ***Inulins*** are the nutrients beneficial bacteria thrive on. The inulins in **Agave** are complex. They last longer in the digestive tract, allowing beneficial bacteria to distribute *further* into the colon.

FIBER/SUNFIBER® PARTIALLY HYDROLYZED GUAR GUM (PHGG) favorably modifies intestinal pH for more efficient *absorption* of essential nutrients, including magnesium and calcium.

SHORT-CHAIN FRUCTOOLIGOSACCHARIDES (FOS) are a preferred food source for *bifidobacteria*. FOS also increases stool bulk, supports normal bowel function, and promotes regularity.

Those who want to obtain the benefits of this *digestion-enhancing* formula can order the new **Agave Digestive-Immune Support**. The **suggested dose is 1 scoop per day** mixed into 4–8 ounces of any beverage or soft food.

A jar containing **360 grams of powder** retails for $30, but when a member buys four jars during **Super Sale**, the price is reduced to **$18.23** per jar.



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Reference:

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To order
Agave Digestive-Immune Support,
call **1-800-544-4440**
or visit **www.LifeExtension.com**



BY STEPHEN LAIFER

The Annie Appleseed Foundation

Hope through Alternative Therapies

Doctors don't have all the answers when it comes to battling *lethal* diseases like cancer. Too often, oncologists and other cancer specialists have closed minds when it comes to therapies that might lie outside the bounds of what they learned in medical school textbooks. It's an ironic state of affairs, since physicians—of all people—should understand the fact that there is no one-size-fits-all approach to disease management.

> Of course, not all doctors appreciate having their ironclad approaches challenged. For example, one of AAP's underlying tenets is that antioxidants can prove useful in conjunction with conventional therapy.

The Annie Appleseed Project (AAP), based in Delray Beach, Florida, was formed in response to this approach. Anyone who has been diagnosed with cancer knows that it's probably the single most frightening word they will ever hear. Adding to the fear are the sudden confusing decisions that need to be made about which therapies or treatments might be right for their particular situation. The goal of AAP is to help alleviate some of that fear by providing solid information, advocacy and awareness for people with cancer about complementary and alternative medicine (CAM). Although the project began as AAP founder Ann Fonfa's personal quest to get answers about CAM therapies, it has grown to become a nationally recognized organization.

Seeds Planted

Fonfa was diagnosed with breast cancer in January 1993. Because of chemical sensitivities, she opted not to take chemotherapy—but she knew she had to find some viable alternatives. "Back then, anything that wasn't chemo or radiation was considered alternative," Fonfa recalls. "Even yoga was considered dangerous at the time."

Fonfa quickly agreed to a mastectomy—after three lumpectomies. "In the early 90s, patients typically knew nothing other than that you either kept or lost your breast." Six months later, Fonfa had recurrence on the chest wall and was considered stage IV. "I objected, since I had no signs of metastatic disease, but was told that was the way it was done."

After dabbling in a variety of alternative therapies, Fonfa was offered the chance to work with a Chinese herbalist who also had a PhD from Harvard. "This struck me as a good combination: someone with a foot in each camp, so to speak." Fonfa had meanwhile tried her own brand of CAM by this point: high-dose vitamin A therapy. "By the third week, I noticed the tumors were smaller. I saw an oncologist who, after I told him the news, simply asked me to get dressed. He didn't even look at the tumors. In later discussions with other oncologists, I found that they already knew about the benefits of vitamin A. I wonder to this day why women aren't told about this."

On the path to gaining knowledge for herself, Fonfa encountered others in a similar situation. She decided to found a study group in New York City to which she began inviting speakers, reading books, and obtaining literature from clinics in places not tied in with the American medical establishment. Eventually, Cancer Care Inc. invited her to talk to their social workers about the patient perspective on alternative medicine. That prompted her to create an outline summarizing what she had learned.

"I realized I had tons of information in the form of summaries I had been making of each meeting I'd attended since 1994," Fonfa explains. The Annie Appleseed website (www.annieappleseedproject.org) went online in June, 1999. Nowadays, relevant content is added on a weekly basis, currently totaling some 8,000 web pages and links. In addition to reports from conferences worldwide, the site posts studies that help explain the benefits of natural and nontoxic substances. More than two million people have visited in the last twelve months, and thousands more have heard Fonfa speak at meetings around the US, asking challenging questions that many doctors don't want to hear.

Seedling Takes Root

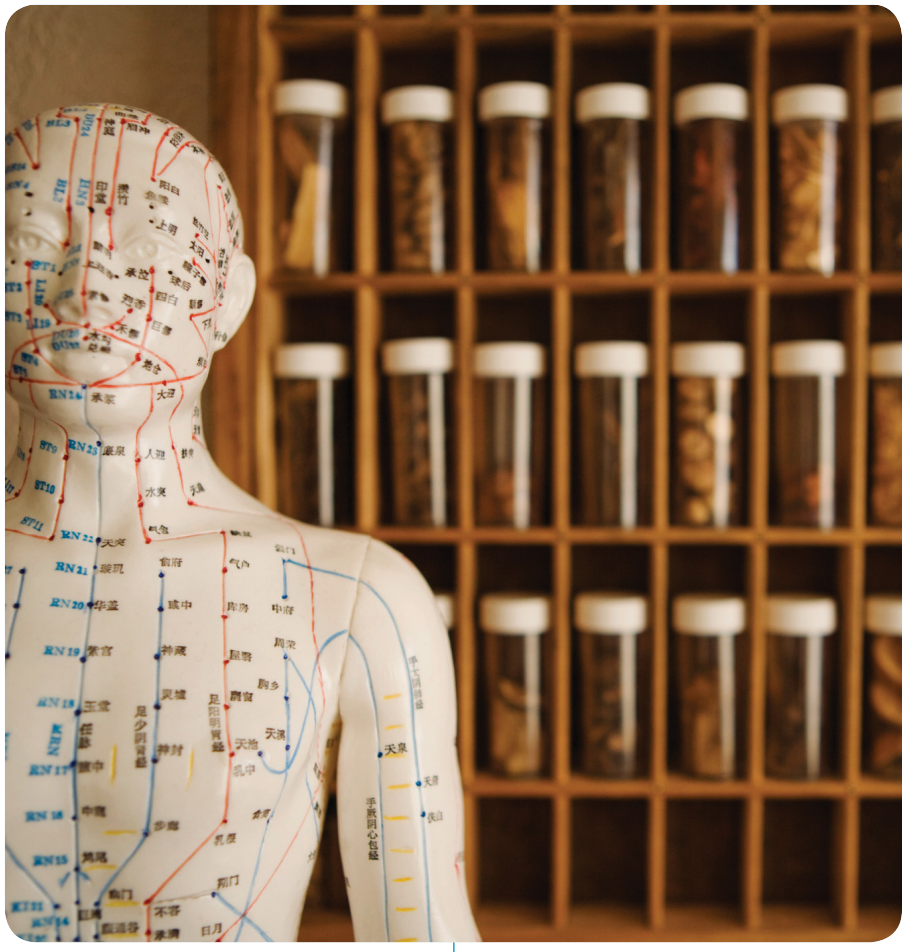
"Early funding for AAP came from family, personal friends, other advocates and advocacy groups," says Fonfa. Even now, she says the organization receives more than 60% of its funding from donations under $100. Still, growth has been phenomenal: in the last three years, the project has begun offering its own annual educational conference and some foundations have given larger grants. "We have few steady large donors, however," she laments.

Fonfa still does much of the hands-on work herself. "I have yet to find anyone crazy enough to work full time for no pay," she says. "We do have terrific volun-

teers who help us with creating print material, distributing materials all over the country, and attending meetings to obtain written summaries so that others can view the information gained." The project also bolsters its primary mission by attending many meetings each year to make its presence known. "It's crucial that the scientific, research and medical community be made aware of our advocacy," Fonfa says. "We speak up a lot, and we ask questions."

Fonfa feels CAM has had a slow road to acceptance in large part because Western science is overly focused on naming and trying to understand exactly why something works. "While we welcome such information, the information itself—the *why*—doesn't change *what* is happening," she points out. "Even if the workings of a natural substance or technique cannot be fully explained, that does not diminish the reality of its effect. From its inception, the Annie Appleseed Project was intended to challenge the existing treatment paradigm." An important part of this is questioning research subjects and methods, proposing instead new directions that take a serious look at CAM and other techniques. "Our hope is that this can ultimately result in a truly integrative oncology."

Of course, not all doctors appreciate having their ironclad approaches challenged. For example, one of AAP's underlying tenets is that antioxidants can prove useful in conjunction with conventional therapy. "The preponderance of evidence favors this theory," states Fonfa. "Relatively few oncologists share this perspective, however." She adds that individual patients are still faced with challenging their oncology team if they question what they are told or ask about alternatives. And for those cancer centers that do have integrative sections or offer newer options, programs typically have to pay out of pocket to utilize the benefits.



Nevertheless, Fonfa sees AAP's ideas slowly gaining ground despite such huge hurdles. "Younger doctors are often more open to CAM, but things change slowly in the medical world," she concedes. "While increasing numbers of hospitals have nutritionists on staff, not everyone gets a recommendation to visit them. But at least yoga is considered a good idea now!" The project intervenes in these areas by suggesting patients download relevant articles and studies from its extensive online library. With these in hand, patients are better equipped to open a possibly difficult dialogue with their doctor.

The goal of AAP is providing solid information, advocacy and awareness for people with cancer about complementary and alternative medicine (CAM).

Tree Bears Fruit

AAP's role as a disseminator of vital information continues to expand. Fonfa has presented posters, papers, and workshops at many conferences worldwide. She was a featured speaker in Hyderabad, India in 2006, and has given presentations at the National Breast Cancer Coalition's annual meeting. AAP has sponsored two national meetings—"Evidence-based Complementary and Alternative Cancer Therapies"—in 2008 and 2009, and has exhibited at 30 other meetings including the American Society for Clinical Oncology, Oncology Nursing Society, Ovarian National Cancer Alliance, Prostate Forum, and American Psychosocial Oncology Society. Even politicians have been consulting the AAP website as a policy-planning resource.

This year will see the third annual Evidence-Based CAM for Cancer Advocates in January, 2010, to be held in West Palm Beach. Fonfa says the Annie Appleseed Project, as the premier resource on CAM from the patient perspective, is thrilled to be able to offer this educational conference. Patients can meet others who have used complementary or alternative modalities, while practitioners will in turn hear ways to help patients make more informed choices. All attendees will learn how to make healthy lifestyle choices during treatment, after treatment, and into long-term survivorship.

For Fonfa, achieving that survivorship has been a long road of self-discovery. "I took my first dose of Chinese herbs in April 1999. That day I broke out with severe hives. I was sent to a dermatologist, who recommended antihistamines. I woke in the middle of the night with terrible tightness in my chest, which I discovered is a primary possible negative side effect of antihistamines. Since I had specifically mentioned my double mastectomy, I thought the dermatologist might have warned me!"

Fonfa was afraid to touch the herbs again for a solid month. Finally, she called the Chinese herbalist and went forward once more—but first she had an MRI to document the extent of invasive lobular carcinoma in her chest wall. "I made a tea of the herbs from June 1999 until August 2001. I was afraid to stop, even after the herbalist advised me that I was done." Finally, Fonfa had another MRI. "The doctor who was reading it couldn't find anything, and was confused as to why I'd had it done."

Fonfa met with her surgeon on September 12, 2001. "I was living in New York City, and the whole world knows what happened the day before. Fonfa says her doctor told her officially what she really already knew: she was cancer-free. Outside the hospital, Fonfa began to cry, thinking how she had just gotten a reprieve when so many others had died. "Instantly, three women came up to embrace me. They thought I was responding to the visible plume of smoke over lower Manhattan—but here I was, crying because I would live." ●

For more information on the Annie Appleseed Project, visit www.annieappleseedproject.org.

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3. Eases the effects of circulating cytokines that promote inflammation.
4. Safeguards collagen and elastin against oxidative damage.
5. Enjoys an outstanding safety record.
6. Produces results in just **1–2** weeks, with a single **600 mg** tablet taken each morning.[2]

*Product not for sale outside the United States.

To order European Leg Solution featuring Certified Diosmin 95, call 1-800-544-4440 or visit www.LifeExtension.com

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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.

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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 1100 West Commercial Blvd, Ft. Lauderdale, FL, 33309. We're located at Commercial Blvd and Powerline Road, just west of I-95. For more information or directions call 954-766-8144.

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Life Extension Member Pricing

COMPREHENSIVE PANELS

MALE LIFE EXTENSION PANEL — $269
(LC322582)
CBC/Chemistry Profile
DHEA-S
PSA (prostate-specific antigen)
Homocysteine
C-Reactive Protein (high-sensitivity)
Free Testosterone
Total Testosterone
Estradiol

MALE HORMONE ADD-ON PANEL — $160
(LCADDM)
Pregnenolone, Dihydrotestosterone (DHT), and TSH
To provide an even more in-depth analysis of a man's hormone status, Life Extension has created this panel as an addition to the Male Life Extension Panel. This panel provides valuable information about the thyroid, a testosterone metabolite that can affect the prostate, and the mother hormone that acts as a precursor to all other hormones.

LIFE EXTENSION MALE WEIGHT LOSS PANEL — $324
(LCWLM)
CBC/Chemistry Profile, DHEA-S, Free Testosterone, Total Testosterone, Estradiol, PSA, C-Reactive Protein, Homocysteine, TSH, Free T4, Free T3

FEMALE LIFE EXTENSION PANEL — $269
(LC322535)
CBC/Chemistry Profile
DHEA-S
Estradiol (an estrogen)
Homocysteine
C-Reactive Protein (high-sensitivity)
Progesterone
Free Testosterone
Total Testosterone

FEMALE HORMONE ADD-ON PANEL — $130
(LCADDF)
Pregnenolone, Total Estrogens, and TSH
To provide an even more in-depth analysis of a woman's hormone status, Life Extension has created this panel as an addition to the Female Life Extension Panel. This panel provides valuable information about the thyroid, total estrogen status, and the mother hormone that acts as a precursor to all other hormones.

LIFE EXTENSION FEMALE WEIGHT LOSS PANEL — $324
(LCWLF)
CBC/Chemistry Profile, DHEA-S, Free Testosterone, Total Testosterone, Estradiol, Progesterone, C-Reactive Protein, Homocysteine, TSH, Free T4, Free T3

LIFE EXTENSION THYROID PANEL — $75
(LC304131)
TSH, T4, Free T3, Free T4.

MALE HORMONE RE-TEST PROFILE — $275
(LCRTM)
CBC/Chemistry Profile, DHEA-S, Dihydrotestosterone (DHT), Estradiol, PSA, Pregnenolone, Total and Free Testosterone, and TSH. Continual monitoring of hormone levels is necessary for men seeking to maintain optimal blood level values.

FEMALE HORMONE RE-TEST PROFILE — $250
(LCRTF)
CBC/Chemistry Profile, DHEA-S, Total Estrogen, Pregnenolone, Total and Free Testosterone, Progesterone, and TSH. Continual monitoring of hormone levels is necessary for women seeking to maintain optimal blood level values.

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(LICHTEN01M)
MALE LIFE EXTENSION PANEL PLUS:
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DR. LICHTEN COMPREHENSIVE FEMALE PANEL — $668
(LICHTEN01F)
FEMALE LIFE EXTENSION PANEL PLUS:
IGF-1, FSH, LH, TSH, T4 free, Cortisol, Fasting Insulin, Sex Hormone Binding Globulin, and Hemoglobin A1C.

THE CBC/CHEMISTRY PROFILE — $35
(LC381822) OVER 40 PARAMETERS TESTED

CARDIOVASCULAR RISK PROFILE

Total Cholesterol	Cholesterol/HDL Ratio
HDL Cholesterol	Estimated CHD Risk
LDL Cholesterol	Glucose
Triglycerides	Iron

LIVER FUNCTION PANEL

AST (SGOT)	Total Bilirubin
ALT (SGPT)	Alkaline Phosphatase
LDH	

KIDNEY FUNCTION PANEL

BUN	BUN/Creatinine Ratio
Creatinine	Uric Acid

BLOOD PROTEIN LEVELS

Total Protein	Globulin
Albumin	Albumin/Globulin Ratio

BLOOD COUNT/RED AND WHITE BLOOD CELL PROFILE

Red Blood Cell Count	Monocytes
White Blood Cell Count	Lymphocytes
Eosinophils	Platelet Count
Basophils	Hemoglobin
Polys (Absolute)	Hematocrit
Lymphs (Absolute)	MCV
Monocytes (Absolute)	MCH
Eos (Absolute)	MCHC
Baso (Absolute)	Polynucleated Cells
RDW	

BLOOD MINERAL PANEL

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Phosphorus	Iron

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  A pituitary function test useful in evaluating adrenocortical dysfunction.
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  This test shows if you are taking the proper amount of DHEA. This test normally costs $100 or more at commercial laboratories.
- ◯ **DIHYDROTESTOSTERONE (DHT)* (LC500142)** — $99
  Measures serum concentrations of DHT.
- ◯ **ESTRADIOL (LC004515)** — $33
  For men and women. Determines the proper amount in the body.
- ◯ **INSULIN-LIKE GROWTH FACTOR BINDING PROTEIN 3 (IGFBP3) (LC140152)** — $47
  Elevated levels in hypertensive individuals have been associated with a nine-fold increase of carotid arteriosclerosis.
- ◯ **INSULIN FASTING (LC004333)** — $42
  Can predict those at risk of diabetes, obesity, and heart and other diseases.
- ◯ **PREGNENOLONE* (LC140707)** — $116
  Used to determine ovarian failure, hirsutism, adrenal carcinoma, and Cushing's syndrome.
- ◯ **PROGESTERONE (LC004317)** — $55
  Primarily for women. Determines the proper amount in the body.
- ◯ **SEX HORMONE BINDING GLOBULIN (SHBG) (LC082016)** — $33
  This test is used to monitor SHBG levels which are under the positive control of estrogens and thyroid hormones, and suppressed by androgens.
- ◯ **SOMATOMEDIN C (IGF-1) (LC010363)** — $75
  Indicates growth hormone secretion levels. Low levels have been associated with atherosclerosis as well as all-cause mortality.
- ◯ **TOTAL AND FREE TESTOSTERONE (LC140103)** — $99
  Determines whether testosterone replacement should be considered as a therapy for depression, abdominal obesity, low energy, poor mental performance, or loss of libido.
- ◯ **URINARY 2/16 ESTROGEN METABOLITE RATIO (LCU73000)** — $128
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CARDIAC RISK

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  Measures inflammation factors in arteries. Recent studies indicate that C-reactive protein may be the most accurate risk factor for predicting heart attack and stroke.
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- ◯ **FREE-PSA (INCLUDES TOTAL PSA)* (LC480780)** — $61
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GENERAL HEALTH

- ◯ **CELIAC DISEASE ANTIBODY SCREEN (LC334971)** — NEW $99
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- ◯ **VITAMIN C* (LC001479)** — NEW $47
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Signature of Life Extension Member

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L-Carnitine Powder
L-Cysteine Capsules
L-Glutathione, L-Cysteine & C
L-Glutamine Capsules
L-Glutamine Powder
L-Lysine Capsules
L-Lysine Powder
L-Methionine Powder
L-Tyrosine Powder
L-Tyrosine Tablets
Mega L-Glutathione Capsules
N-Acetyl-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
DMAE
DMAE-Ginkgo
DMAE Powder (37% 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
Agave Digestive-Immune Support
Bromelain Powder
Carnosoothe w/PicroProtect
Digest RC™
Enhanced Super Digestive Enzymes (also available with Probiotics)
Florastor
Intact Digest
Life Flora™
Natural EsophaGuard
NutraFlora (FOS) Powder
N-Zimes™
Pancreatin
Papain Powder
Primal Defense
Regimint™

DURK AND SANDY PRODUCTS
Blast™
Dual-C
Inner Power™
Memory Upgrade

EYE CARE
Bilberry Extract
Blackcurrant Freeze Dried Extract
Brite Eyes III
Lutein Plus Powder
Overxcast Polarized Sunglasses
Solarshield Sunglasses
Super Zeaxanthin with Lutein & Meso-Zeaxanthin (Plus Astaxanthin also available)
Vision Optimizer

FIBER
Apple Pectin Powder
Chitosan
Enhanced Fiber Food Powder
Hi-Lignan® Nutri-Flax®
SlimStyles® PGX
WellBetX PGX® Soluble Fiber Blend

HAIR CARE
Dr. Proctor's Advanced Hair Formula
Dr. Proctor's Shampoo
Life Extension Shampoo and Conditioner
Super-Absorbable Tocotrienols

HEART HEALTH
Advanced Lipid Control
D-Ribose Capsules
D-Ribose Powder
Endothelial Defense
Enhanced CoQ10 with Brewer's Yeast
Fibrinogen Resist
Forskolin
Homocysteine Resist
Low Dose Aspirin (Enteric Coated)
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
Vascular Protect

HERBAL/PHYTO PRODUCTS
Artichoke Leaf Extract
Astaxanthin
Berry Complete
Blackcurrant Juice Concentrate
Blueberry Extract
Blueberry Extract w/Pomegranate and CocoaGold™
Butterbur Extract w/Standardized Rosmarinic Acid
Calcium D-Glucarate
Chloroplex
Cilantro Herbal Extract
Citrus Bioflavonoid
CocoaGold™
Grapeseed Extract with Resveratrol & Pterostilbene
Green Tea Leaves
Hesperidin Complex Powder
Huperzine A with Natural Vitamin E
Kyolic® Garlic Formula 105
Kyolic® Reserve
Lycopene
Mega Green Tea Extract
Mega Green Tea Extract (Decaffeinated)
Mega Lycopene
Mega Silymarin with Isosilybin B
Nutrim
Optimized Ashwagandha Extract
Phyto-Food
Pomegranate Extract
Pomegranate Extract with CocoaGold™
Pomegranate Juice Concentrate
ProGreens®
Pure-Gar™
Pycnogenol
Optimized Quercetin
Resveratrol with Pterostilbene
Rhodiola Extract
Rosmarinic Acid Extract
Rutin Powder
Silibinin Plus
Silymarin
SODzyme™ with GliSODin®
Stevia Extract
Super Bio-Curcumin®
Super Curcumin with Bioperine®
Super Polyphenol Extracts w/CocoaGold™
Super Ginkgo Extract
Triple Action Cruciferous Vegetable Extract
Venotone
Whole Grape Extract

HORMONES
7-Keto® DHEA
DHEA
DHEA Complete
GH Pituitary Support Day Formula
GH Pituitary Support Night Formula
Melatonin
Melatonin Timed Release
Natural Estrogen with Pomegranate Extract
Pregnenolone
ProFem Cream
Pure IGF
Super Miraforte with Standarized Lignans

IMMUNE ENHANCEMENT
Agave Digestive-Immune Support
AHCC® (Active Hexose Correlated Compound)
Buffered Vitamin C Powder
Echinacea
Enhanced Life Extension Whey Protein
Immune Protect with PARACTIN®
Lactoferrin
Maitake SX-Fraction
Norwegian Shark Liver Oil
Primal Defense™
ProBoost™ Thymic Protein A
Pure Gar™
Sambu® Guard
Theralac Capsules
Thymic Immune Factors
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
Fast Acting Joint Formula
Korean Angelica
5-LOXIN®
Mega EPA/DHA
Mega GLA with Sesame Lignans
MSM
Natural Relief 1222™ Cream
NKO Krill Oil
Perilla Oil
Serraflazyme
Shark Cartilage
SODzyme™ with GliSODin® and Wolfberry
Super MaxEPA
Super Omega-3 EPA/DHA with Sesame Lignans & Olive Fruit Extract
Udo's Choice Oil
Zyflamend Easy

LIVER HEALTH
Branch Chain Amino Acids
HepatoPro
Mega Silymarin with Isosilybin B
N-Acetyl Cysteine
SAMe
Silibinin Plus
Silymarin

Products

MINERALS
Biosil
Bone Restore
Bone Strength Formula w/KoAct™
Bone-Up™
Boron Capsules
Calcium Citrate with D3
Chromium Ultra
Copper
Iodoral
Iron Protein Plus
Magnesium
Magnesium Citrate
Mineral Formula for Men
Mineral Formula for Women
Only Trace Minerals
OptiZinc
Sea-Iodine™
Selenium
Se-Methylselenocysteine
Vanadyl Sulfate
Zinc/Vitamin C Lozenges

MISCELLANEOUS
Blood Pressure Monitor Arm Cuff Medium
Cell Sensor Gauss Meter™
Empty Gelatin Capsules
The Capsule Filler Machine
The Pill Cutter and Grinder

MITOCHONDRIAL SUPPORT
Acetyl-L-Carnitine
Acetyl-L-Carnitine-Arginate
ChronoForte with Luteolin
Mitochondrial Energy Optimizer
Optimized Carnitine with GlycoCarn®
Super Absorbable CoQ10™ with d-Limonene
Super Alpha Lipoic Acid with Biotin
Super R-Lipoic Acid
Super Ubiquinol CoQ10 with Enhanced Mitochondrial™ Support

MOOD RELIEF
L-Theanine
Natural Stress Relief
Optimized TryptoPure™ Plus
SAMe
St. John's Wort Extract
Tryptopure™ L-Tryptophan

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

MULTIVITAMIN
Children's Formula Life Extension Mix
Comprehensive Nutrient Pack
Life Extension Booster
Life Extension Mix™ Capsules
Life Extension Mix™ Powder
Life Extension Mix™ Tablets
Life Extension Mix™ w/o Copper Capsules
Life Extension Mix™ w/o Copper Powder
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 w/o Copper Powder
Life Extension One-Per-Day
Life Extension Two-Per-Day
Super Booster Softgels w/Advanced K2 Complex
Vital Greens Mix

PET CARE
Life Extension Cat Mix
Life Extension Dog Mix

PROSTATE & URINARY HEALTH
BetterWOMAN®
Cran-Max
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
Anti-Aging Mask
Anti-Glycation Serum
Antioxidant Facial Mist
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
DHEA Skin Creme
Derma Whey
Dual-Action MicroDerm Abraision
Essential Plant Lipids Reparative Serum
Face Master® Platinum
Face Rejuvenating Antioxidant Cream
Enhanced FernBlock® with Sendara™
Fine Line-Less
Hair Suppress Formula
Healing Mask
Hyaluronic Facial Moisturizer
Hydroderm®
Lavilin Underarm Deodorant
Life Extension Sun Protection Spray
Lifting & Tightening Complex
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
Skin Lightening Serum
Skin Stem Cell Serum
Total Sun Protection Cream
Triple Action Under Eye Rejuvenator
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 K Healing Cream

SOY
Natural Estrogen w/Pomegranate
Soy Power Powder
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
CocoaGold w/Beta Glucan
Coriolus Versicolor Super Strength
Enhanced Cinsulin® w/Glucose Management Proprietary Blend
EDTA
(European Leg Solution) Diosmin95
Fem Dophilus
GlucoFit™
Lustre™
Maitake SX-Fraction™
Menopause Solutions
Migra-eeze™
Natural Female Support
Pecta-Sol®
Potassium Iodide
Prelox® Natural Sex for Men®
Pyridoxamine
Rosmarinic Acid Extract

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

VITAMINS
Ascorbic Acid Powder
Ascorbyl Palmitate Capsules
Ascorbyl Palmitate Powder
B1
B2
B12
Beta-Carotene
Biotin Capsules
Biotin Powder
Buffered Vitamin C Powder
Calcium Ascorbate Powder
Complete B Complex
Eligen® B12
Folic Acid + B12
Folic Acid powder
Gamma E Tocopherol w/Sesame Lignans
Gamma E Tocopherol/Tocotrienols
Inositol Capsules
Inositol Powder
Liquid Emulsified Vitamin A
Mega Lycopene Extract
Methylcobalamin
MK-7
No-Flush Niacin
Optimized Folate
PABA Capsules
PABA Powder
Super Ascorbate C Capsules
Super Ascorbate C Powder
Super K w/Advanced K2 Complex
Tocotrienols w/Sesame Lignans
Vitamin B1 Powder
Vitamin B2 Powder
Vitamin B3 (Niacin) Capsules
Vitamin B5 Powder
Vitamin B6
Vitamin B12 Powder
Vitamin C
Vitamin D
Vitamin D3
Vitamin D3 w/Sea-Iodine™
Vitamin E Succinate
Vitamin K1

WEIGHT MANAGEMENT
Alli® Refill Pack
Belly Slim & Tone
Chitosan
CitriChrome
7-Keto DHEA
DHEA Complete
Enhanced Fiber Food
Fucoxanthin Slim™
HCA
Integra-Lean® Irvingia
Optimized Irvingia w/Phase 3™ Calorie Control Complex
Life Mix
Natural Appetite Control
SlimStyles® PGX Natural Weight Loss
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

SUPER SALE SAVINGS ON ALL PRODUCTS
To order call: 1-954-766-8433 or 1-800-544-4440

No.		Retail	Member Price	Qty	Total
	A				
00449	**ACETYL-L-CARNITINE** - 500 mg, 100 caps	$56.00	$42.00		
	ACETYL-L-CARNITINE - 4 bottles of 100 caps	186.64	139.98		
00788	**ACETYL-L-CARNITINE ARGINATE** - 100 caps	59.00	44.25		
	ACETYL-L-CARNITINE ARGINATE - 4 bottles of 100 caps	203.96	152.97		
01308	**ADVANCED LIPID CONTROL** - 60 veg. caps	30.00	22.50		
	ADVANCED LIPID CONTROL - 4 bottles of 60 veg. caps	108.00	81.00		
01300	**ADVANCED ORAL HYGIENE** - 60 veg. mint lozenges	20.00	15.00		
	ADVANCED ORAL HYGIENE - 4 bottles of 60 veg. mint lozenges	72.00	54.00		
01417	**AGAVE DIGESTIVE-IMMUNE SUPPORT** - 360 grams of powder	30.00	22.50		
	AGAVE DIGESTIVE-IMMUNE SUPPORT - 4 bottles of powder	108.00	81.00		
00681	**AHCC** - 500 mg, 30 caps	49.98	37.49		
	AHCC - 4 bottles of 30 caps	180.00	135.00		
46925	**ALLI® REFILL PACK** - 60 mg, 120 caps	69.95	58.00		
00261	**ALL-IN-ONE WEIGHT LOSS FORMULA** - 300 caps	59.95	44.96		
	ALL-IN-ONE WEIGHT LOSS FORMULA - 2 bottles of 300 caps	110.00	82.50		
	ALL-IN-ONE WEIGHT LOSS FORMULA 4 bottles of 300 caps	174.00	130.50		
00457	**(SUPER) ALPHA-LIPOIC ACID w/BIOTIN** - 250 mg, 60 caps	37.00	27.75		
	(SUPER) ALPHA-LIPOIC ACID w/BIOTIN - 4 bottles of 60 caps	128.00	96.00		
01420	**ANTI-ALCOHOL ANTIOXIDANTS W/HEPATOPRO** - 100 caps	18.00	13.50		
	ANTI-ALCOHOL ANTIOXIDANTS W/HEPATOPRO - 4 bottles of 100 caps	64.00	48.00		
00105	**APPLE PECTIN POWDER** - 8 oz bottle of powder	14.75	11.06		
	APPLE PECTIN POWDER - 4 bottles of powder	55.00	41.25		
01012	**ARGININE CAPS** - 800 mg, 200 caps	26.50	19.88		
	ARGININE CAPS - 4 bottles of 200 caps	93.00	69.75		
01039	**ARGININE/ORNITHINE CAPS** - 500/250 mg, 100 caps	16.00	12.00		
	ARGININE/ORNITHINE CAPS - 4 bottles of 100 caps	58.00	43.50		
00038	**ARGININE/ORNITHINE POWDER** - 150 grams of powder	22.95	17.21		
	ARGININE/ORNITHINE POWDER - 4 bottles of powder	76.00	57.00		
01025	**(L)-ARGININE FREE-FORM POWDER** - 100 grams of powder	18.50	13.88		
	(L)-ARGININE FREE-FORM POWDER - 4 bottles of powder	67.00	50.25		
00040	**(L)-ARGININE HCL** - 1 kilogram of powder	118.00	88.50		
	(L)-ARGININE HCL - 4 bottles of powder	432.00	324.00		
01303	**ARTHROMAX™ w/THEAFLAVINS** - 120 veg. caps	44.00	33.00		
	ARTHROMAX™ w/THEAFLAVINS - 4 bottles of 120 veg. caps	160.00	120.00		
01404	**ARTHRO-IMMUNE JOINT SUPPORT** - 60 veg. caps	30.00	22.50		
	ARTHRO-IMMUNE JOINT SUPPORT- 4 bottles of 60 veg. caps	108.00	81.00		
00919	**ARTICHOKE LEAF EXTRACT** - 500 mg, 180 veg. caps	28.00	21.00		
	ARTICHOKE LEAF EXTRACT - 4 bottles of 180 veg. caps	101.52	76.14		
00086	**(SUPER) ASCORBATE C POWDER** - 8 oz of powder	24.95	18.71		
	(SUPER) ASCORBATE C POWDER - 4 bottles of powder	92.52	69.39		
00080	**ASCORBIC ACID POWDER** - 16 oz of powder vitamin C	38.00	28.50		
	ASCORBIC ACID POWDER - 4 bottles of powder vitamin C	139.72	104.79		
00082	**ASCORBYL PALMITATE CAPSULES** - 500 mg, 100 caps	22.50	16.88		
	ASCORBYL PALMITATE CAPSULES - 4 bottles of 100 caps	80.00	60.00		
00083	**ASCORBYL PALMITATE POWDER** - 100 grams of powder	32.00	24.00		
	ASCORBYL PALMITATE POWDER - 4 bottles of powder	120.00	90.00		
00888	**(OPTIMIZED) ASHWAGANDHA EXTRACT** - 60 veg. caps	10.00	7.50		
	(OPTIMIZED) ASHWAGANDHA EXTRACT - 4 bottles of 60 veg. caps	36.00	27.00		
00892	**(LOW DOSE) ASPIRIN ENTERIC COATED** - 81 mg, 500 tablets	10.00	7.50		
	(LOW DOSE) ASPIRIN ENTERIC COATED - 4 bottles of 500 tablets	36.00	27.00		
00708	**ASTAXANTHIN** - 2 mg, 30 softgels	9.98	7.49		

SUB-TOTAL OF COLUMN 1

No.		Retail	Member Price	Qty	Total
	B				
01040	**BELLY SLIM & TONE** - 6 fl oz	$42.00	$31.50		
	BELLY SLIM & TONE - 4 bottles of 6 fl oz	152.00	114.00		
00920	**BENFOTIAMINE W/ THIAMINE** - 100 mg, 120 caps	19.95	14.96		
	BENFOTIAMINE W/ THIAMINE - 4 bottles of 120 caps	74.40	55.80		
00925	**(MEGA) BENFOTIAMINE** - 250 mg, 120 veg. caps	30.00	22.50		
	(MEGA) BENFOTIAMINE - 4 bottles of 120 veg. caps	108.00	81.00		
01206	**BERRY COMPLETE** - 30 veg. caps	21.00	15.75		
	BERRY COMPLETE - 4 bottles of veg. caps	74.68	56.00		
00664	**BETA-CAROTENE** - 25,000 IU, 100 softgels	10.50	7.88		
	BETA-CAROTENE - 4 bottles of 100 softgels	38.00	28.50		
00088	**BETA-CAROTENE POWDER** - 100 grams of powder	27.00	20.25		
	BETA-CAROTENE POWDER - 4 bottles of powder	100.00	75.00		
00653	**BETTERWOMAN** -40 caps	40.00	30.00		
	BETTERWOMAN - 4 bottles of 40 caps	152.00	114.00		
00497	**BILBERRY EXTRACT** - 100 mg, 100 caps	28.00	21.00		
	BILBERRY EXTRACT - 4 bottles of 100 caps	100.00	75.00		
*01006	**BIOSIL™** - 5 mg, 30 veg. caps	18.95	15.16		
*01007	**BIOSIL™** - 30 fl ml	29.99	23.99		
00102	**BIOTIN CAPSULES** - 600 mcg, 100 caps	7.50	5.63		
	BIOTIN CAPSULES - 4 bottles of 100 caps	26.00	19.50		
00145	**BIOTIN POWDER** - 30 grams of powder	12.50	9.38		
	BIOTIN POWDER - 4 bottles of powder	44.00	33.00		
01037	**BLACKCURRANT FREEZE DRIED EXTRACT** - 60 veg. caps	21.95	16.46		
01034	**BLACKCURRANT JUICE CONCENTRATE** - 12 fl. oz	17.95	13.46		
01008	**BLAST™** - 600 grams of powder	26.95	20.21		
70000	**BLOOD PRESSURE MONITOR-ARM CUFF** (medium)	99.95	64.97		
70001	**BLOOD PRESSURE MONITOR**-WRIST (travel size)	69.95	45.47		
01214	**BLUEBERRY EXTRACT** - 60 veg. caps	22.50	16.88		
	BLUEBERRY EXTRACT - 4 bottles of 60 veg. caps	80.00	60.00		
01338	**BLUEBERRY EXTRACT w/POMEGRANATE & COCOAGOLD™** - 60 veg. caps	30.00	22.50		
	BLUEBERRY EXTRACT w/POMEGRANATE & COCOAGOLD™ - 4 bottles of 60 veg. caps	108.00	81.00		
00811	**BONE RESTORE** - 150 caps	22.50	16.88		
	BONE RESTORE - 4 bottles of 150 caps	78.00	58.50		
01211	**BONE STRENGTH FORMULA w/KOACT™** - 120 caps	42.00	31.50		
	BONE STRENGTH FORMULA w/KOACT™ - 4 bottles of 120 caps	152.00	114.00		
00313	**BONE-UP®** - 240 caps (hydroxyapatite complex)	24.95	18.71		
	BONE-UP® - 4 bottles of 240 caps	90.00	67.50		
01079	**BOOSTER** - 60 softgels	48.00	36.00		
	BOOSTER - 4 bottles of 60 softgels	176.00	132.00		
01380	**(SUPER) BOOSTER w/ADVANCED K2 COMPLEX** - 60 softgels	42.00	31.50		
	(SUPER) BOOSTER w/ADVANCED K2 COMPLEX - 4 bottles of 60 softgels	152.00	114.00		
00621	**BORON CAPS** - 3 mg, 100 caps	5.95	4.46		
	BORON CAPS - 4 bottles of 100 caps	21.00	15.75		
00202	**BOSWELLA** - 100 caps	38.00	28.50		
	BOSWELLA - 4 bottles of 100 caps	120.00	90.00		
00258	**BOSWELLA TOPICAL CREAM** - 4 oz jar	15.00	11.25		
	BOSWELLA TOPICAL CREAM - 4 jars	52.00	39.00		
00253	**BRANCHED CHAIN AMINO ACIDS** - 90 caps	19.50	14.63		
	BRANCHED CHAIN AMINO ACIDS - 4 bottles of 90 caps	68.00	51.00		
00999	**BREAST HEALTH FORMULA** - 60 veg. caps	34.00	25.50		
	BREAST HEALTH FORMULA - 4 bottles of 60 veg. caps	120.00	90.00		
00893	**BRITE EYES III** - 2 vials, 5 ml each	34.00	25.50		
	BRITE EYES III - 4 boxes	128.00	96.00		

SUB-TOTAL OF COLUMN 2

*** These products are not 25% off retail price.**

LIFE EXTENSION MEMBERS RECEIVE 25% OFF THE RETAIL PRICE OF ALL PRODUCTS

DEDUCT AN ADDITIONAL 10% ON ALL PRODUCTS DURING SUPER SALE

OFFER ENDS FEBRUARY 1, 2010
To order online visit www.lifeextension.com/SuperSale

Buyers Club Order Form

No.		Retail	Member Price	Qty	Total
00136	**BROMELAIN POWDER** - 100 grams of powder	$21.00	$15.75		
	BROMELAIN POWDER - 4 bottles of powder	75.00	56.25		
01203	**(SPECIALLY COATED) BROMELAIN** - 500 mg, 60 enteric coated tablets	21.00	15.75		
	(SPECIALLY COATED) BROMELAIN - 4 bottles of 60 tablets	76.00	57.00		
00884	**BUTTERBUR EXT. W/ STANDARDIZED ROSMARINIC ACID** - 60 softgels	44.00	33.00		
	BUTTERBUR EXT. W/ STANDARDIZED ROSMARINIC ACID - 4 bottles of 60 softgels	158.40	118.80		
	C				
00146	**CALCIUM ASCORBATE POWDER** - 300 grams of powder	$24.00	$18.00		
	CALCIUM ASCORBATE POWDER - 4 bottles of powder	88.00	66.00		
00058	**CALCIUM CARBONATE POWDER** - 1 kilogram of powder	13.95	10.46		
	CALCIUM CARBONATE POWDER - 4 bottles of powder	52.00	39.00		
01015	**CALCIUM CITRATE** - 300 caps	24.00	18.00		
	CALCIUM CITRATE - 4 bottles of 300 caps	85.00	63.75		
00535	**CALCIUM D-GLUCARATE** - 200 mg, 60 caps	18.00	13.50		
	CALCIUM D-GLUCARATE - 4 bottles of 60 caps	60.00	45.00		
00149	**CALCIUM/MAGNESIUM POWDER** - 1 kilogram of powder	21.00	15.75		
	CALCIUM/MAGNESIUM POWDER - 4 bottles of powder	75.00	56.25		
01419	**CALORIE RESTRICTION MIMETIC FORMULA** - 60 veg. caps	36.00	27.00		
	CALORIE RESTRICTION MIMETIC FORMULA - 4 bottles of 60 veg. caps	132.00	99.00		
00118	**CAPSULE FILLER MACHINE FOR "00" CAPSULES**	12.00	9.00		
	CAPSULE FILLER MACHINE FOR "00" CAPSULES - 4 machines	45.00	33.75		
00613	**CAPSULE FILLER MACHINE FOR "0" CAPSULES**	12.00	9.00		
	CAPSULE FILLER MACHINE FOR "0" CAPSULES - 4 machines	45.00	33.75		
00916	**(OPTIMIZED) CARNITINE w/GLYCOCARN®** - 60 veg. caps	29.00	21.75		
	(OPTIMIZED) CARNITINE w/GLYCOCARN® - 4 bottles of 60 veg. caps	104.40	78.30		
01041	**L-CARNITINE CAPSULES** - 500 mg, 30 caps	15.00	11.25		
	L-CARNITINE CAPSULES - 4 bottles of 30 caps	52.80	39.60		
00051	**L-CARNITINE POWDER** - 100 grams of powder	85.00	63.75		
	L-CARNITINE POWDER - 4 bottles of powder	295.00	221.25		
01258	**CARNOSOOTHE w/PICROPROTECT™** - 60 veg. caps	29.95	22.46		
	CARNOSOOTHE w/PICROPROTECT™ - 4 bottles of 60 veg. caps	108.00	81.00		
01287	**(SUPER) CARNOSINE CAPS** - 500 mg, 90 caps	66.00	49.50		
	(SUPER) CARNOSINE CAPS - 4 bottles of 90 caps	240.00	180.00		
01011	**CELLULITE SUPPRESS™ FORMULA** - 6 fl. oz	58.00	43.50		
	CELLULITE SUPPRESS™ FORMULA - 4-6oz bottles	208.00	156.00		
00390	**CDP CHOLINE CAPS** - 250 mg, 60 caps	36.00	27.00		
	CDP CHOLINE CAPS - 4 bottles of 60 caps	136.00	102.00		
00998	**CELL SENSOR-EMF DETECTION/MEASUREMENT METER**	39.95	29.95		
01370	**CHILDREN'S FORMULA MIX** - 100 chewable tablets	18.00	13.50		
	CHILDREN'S FORMULA MIX - 4 bottles of 100 chewable tablets	64.00	48.00		
00216	**CHITOSAN** - 250 mg, 180 caps	28.00	21.00		
	CHITOSAN - 4 bottles of 180 caps	100.00	75.00		
	CHITOSAN - 10 bottles of 180 caps	230.00	172.50		
00369	**CHITOSAN** - 500 mg, 180 caps	55.00	41.25		
	CHITOSAN - 4 bottles of 180 caps	200.00	150.00		
00550	**CHLORELLA** - 500 mg, 200 tablets	23.50	17.63		
	CHLORELLA - 4 bottles of 200 tablets	84.00	63.00		
01048	**CHLOROPHYLLIN w/ZINC** - 100 mg, 100 caps	24.00	18.00		
	CHLOROPHYLLIN w/ZINC - 4 bottles of 100 caps	80.00	60.00		
01045	**CHLOROPLEX** - 100 caps	28.00	21.00		
	CHLOROPLEX - 4 bottles of 100 caps	98.00	73.50		
	CHLOROPLEX - 12 bottles of 100 caps	256.00	192.00		
00142	**CHOLINE BITARTRATE** - 300 grams of powder	17.75	13.31		
	CHOLINE BITARTRATE - 4 bottles of powder	64.00	48.00		
	SUB-TOTAL OF COLUMN 3				

No.		Retail	Member Price	Qty	Total
00541	**CHOLINE CHLORIDE** - 16 oz liquid	$14.95	$11.21		
	CHOLINE CHLORIDE - 4 bottles of 16 oz liquid	56.00	42.00		
00364	**CHONDROITIN SULFATE** - 400 mg, 60 tablets	19.95	14.96		
	CHONDROITIN SULFATE - 4 bottles of 60 tablets	72.00	54.00		
00169	**CHROMIUM** - 200 mcg polynicotinate, 365 caps	28.00	21.00		
	CHROMIUM - 4 bottles of 365 caps	104.00	78.00		
01071	**CHROMIUM ULTRA** - 100 veg. caps	24.00	18.00		
	CHROMIUM ULTRA - 4 bottles of 100 veg. caps	84.00	63.00		
00680	**CHRONOFORTE WITH LUTEOLIN** - 180 caps	96.00	72.00		
	CHRONOFORTE WITH LUTEOLIN - 4 bottles of 180 caps	354.00	265.50		
00551	**CILANTRO HERBAL EXTRACT** - 1 oz	12.00	9.00		
	CILANTRO HERBAL EXTRACT - 4 bottles of 1oz	44.00	33.00		
01267	**(ENHANCED) CINSULIN® W/GLUCOSE MGMT PROP BLEND** - 90 veg. caps	32.00	24.00		
	(ENHANCED) CINSULIN® w/GLUCOSE MGMT PROP BLEND - 4 bottles of 90 veg. caps	120.00	90.00		
00223	**CITRICHROME** - 90 caps	22.95	17.21		
	CITRICHROME - 4 bottles of 90 caps	80.00	60.00		
00069	**CITRUS BIOFLAVONOID** - 100 caps	14.95	11.21		
	CITRUS BIOFLAVONOID - 4 bottles of 100 caps	56.00	42.00		
00818	**(SUPER) CLA BLEND W/SESAME LIGNANS** - 1000 mg, 120 softgels	36.00	27.00		
	(SUPER) CLA BLEND w/SESAME LIGNANS - 4 bottles of 120 softgels	132.00	99.00		
	(SUPER) CLA BLEND w/SESAME LIGNANS - 10 bottles, 120 softgels	263.30	197.48		
00819	**(SUPER) CLA BLEND w/GUARANA & SESAME** -120 softgels	42.00	31.50		
	(SUPER) CLA BLEND w/GUARANA & SESAME - 4 btls of 120 softgels	153.32	114.99		
00863	**COCOAGOLD™** - 130 mg, 60 veg. caps	12.50	9.38		
	COCOAGOLD™ - 4 bottles of 60 veg. caps	44.00	33.00		
01285	**COCOAGOLD™ w/BETA-GLUCAN POWDER** - 180 grams	20.00	15.00		
	COCOAGOLD™ w/BETA-GLUCAN POWDER - 4 jars of 180 grams	72.00	54.00		
00050	**COD LIVER OIL** - 12 fl oz (355 ml) (Emulsified)	9.50	7.13		
	COD LIVER OIL - 4 bottles of 12 fl oz (355 ml)	32.00	24.00		
00293	**COD LIVER OIL** - 100 softgels (Emulsified)	9.95	7.46		
	COD LIVER OIL - 4 bottles of 100 softgels	37.52	28.14		
00922	**COGNITEX w/PREGNENOLONE & NEUROPROTECTION COMPLEX** - 90 softgels	74.00	55.50		
	COGNITEX w/PREGNENOLONE & NEUROPROTECTION COMPLEX - 4 btls of 90 softgels	266.40	199.80		
	COGNITEX w/PREGNENOLONE & NEUROPROTECTION COMPLEX - 12 btls of 90 softgels	768.00	576.00		
00921	**COGNITEX w/o PREGNENOLONE w/NEUROPROTECTION COMPLEX** - 90 softgels	72.00	54.00		
	COGNITEX w/o PREGNENOLONE w/NEUROPROTECTION COMPLEX - 4 bottles of 90 softgels	256.00	192.00		
	COGNITEX w/o PREGNENOLONE w/NEUROPROTECTION COMPLEX - 12 bottles of 90 softgels	744.00	558.00		
00110	**COMPLETE B-COMPLEX** - 180 caps	21.50	16.13		
	COMPLETE B-COMPLEX - 4 bottles of 180 caps	72.00	54.00		
01325	**COMPREHENSIVE NUTRIENT PACK** - 30-day supply	189.00	141.75		
	COMPREHENSIVE NUTRIENT PACK - 120-day supply	684.00	513.00		
00119	**COPPER CAPSULES** - 2 mg, 100 caps	8.95	6.71		
	COPPER CAPSULES - 4 bottles of 100 caps	32.36	24.27		
00208	**(ENHANCED) COQ10** (with Brewer's Yeast) - 30 mg, 100 caps	32.00	24.00		
	(ENHANCED) COQ10 (with Brewer's Yeast) - 4 bottles of 100 caps	108.00	81.00		
	(ENHANCED) COQ10 (with Brewer's Yeast) - 10 bottles of 100 caps	245.00	183.75		
00949	**(SUPER ABSORBABLE) COQ10™ w/ *d*-LIMONENE** - 50 mg, 60 softgels	28.50	21.38		
	(SUPER ABSORBABLE) COQ10™ w/ *d*-LIMONENE - 4 bottles of 60 softgels	99.00	74.25		
	(SUPER ABSORBABLE) COQ10™ w/ *d*-LIMONENE - 10 bottles of 60 softgels	230.00	172.50		
00950	**(SUPER ABSORBABLE) COQ10™ w/ *d*-LIMONENE** - 100 mg, 100 softgels	73.00	54.75		
	(SUPER ABSORBABLE) COQ10™ w/ *d*-LIMONENE - 4 bottles of 100 softgels	260.00	195.00		
	(SUPER ABSORBABLE) COQ10™ W/ *D*-LIMONENE - 10 bottles of 100 softgels	620.00	465.00		
	SUB-TOTAL OF COLUMN 4				

LIFE EXTENSION MEMBERS RECEIVE 25% OFF THE RETAIL PRICE OF ALL PRODUCTS

DEDUCT AN ADDITIONAL 10% ON ALL PRODUCTS DURING SUPER SALE

Buyers Club Order Form

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To order call: 1-954-766-8433 or 1-800-544-4440

No.		Retail	Member Price	Qty	Total
	C CONTINUED				
01226	**(SUPER UBIQUINOL) COQ10** - 100 mg, 60 softgels	$62.00	$46.50		
	(SUPER UBIQUINOL) COQ10 - 4 bot of 60 softgels	224.00	168.00		
	(SUPER UBIQUINOL) COQ10 - 10 bot of 60 softgels	520.00	390.00		
01426	**(SUPER UBIQUINOL) COQ10 w/ENH MITOCHONDRIAL SUPPORT™** -100 mg, 60 softgels	62.00	46.50		
	(SUPER UBIQUINOL) COQ10 w/ENH MITOCHONDRIAL SUPPORT™ -4 bot of 60 softgels	224.00	168.00		
	(SUPER UBIQUINOL) COQ10 w/ENH MITOCHONDRIAL SUPPORT™ -10 bot of 60 softgels	520.00	390.00		
01425	**(SUPER UBIQUINOL) COQ10 w/ENH MITOCHONDRIAL SUPPORT™** -50 mg, 100 softgels	58.00	43.50		
	(SUPER UBIQUINOL) COQ10 w/ENH MITOCHONDRIAL SUPPORT™ -4 bot of 100 softgels	212.00	159.00		
	(SUPER UBIQUINOL) COQ10 w/ENH MITOCHONDRIAL SUPPORT™ -10 bot of 100 softgels	500.00	375.00		
01427	**(SUPER UBIQUINOL) COQ10 w/ENH MITOCHONDRIAL SUPPORT™** -50 mg, 30 softgels	20.00	15.00		
	(SUPER UBIQUINOL) COQ10 w/ENH MITOCHONDRIAL SUPPORT™ -4 bot of 30 softgels	72.00	54.00		
01053	**CORIOLUS VERSICOLOR SUPER STRENGTH** - 600 mg, 150 caps	99.95	74.96		
00857	**COROMEGA CHILD BRAIN & BODY** - (Lemon Lime) 30 packets	25.00	18.75		
	COROMEGA CHILD BRAIN & BODY - (Lemon Lime) 4 boxes of 30 packets	90.00	67.00		
80118	**COSMESIS ANTI-AGING MASK** - 2 oz bottle	66.60	49.95		
	COSMESIS ANTI-AGING MASK - 2-2 oz bottles	117.22	87.92		
80134	**COSMESIS ANTI-GLYCATION SERUM** - 1 oz bottle w/BLUEBERRY & POMEGRANATE EXTRACTS	24.00	18.00		
	COSMESIS ANTI-GLYCATION SERUM - 2-1 oz bottles w/BLUEBERRY & POMEGRANATE EXTRACTS	45.60	34.20		
80133	**COSMESIS ANTI-OXIDANT FACIAL MIST** - 2 oz bottle	29.95	22.46		
	COSMESIS ANTI-OXIDANT FACIAL MIST - 2-2 oz bottles	56.90	42.68		
80132	**COSMESIS ANTI-OXIDANT FACIAL MIST** - 4 oz bottle	39.95	29.96		
	COSMESIS ANTI-OXIDANT FACIAL MIST - 2-4 oz bottles	76.00	57.00		
80127	**COSMESIS ANTI-OXIDANT REJUVENATING FOOT CREAM** - 2 oz jar	39.95	29.96		
	COSMESIS ANTI-OXIDANT REJUVENATING FOOT CREAM - 2-2 oz jar	76.00	57.00		
80128	**COSMESIS ANTI-OXIDANT REJUVENATING FOOT SCRUB** - 2 oz jar	52.95	39.71		
	COSMESIS ANTI-OXIDANT REJUVENATING FOOT SCRUB - 2-2 oz jar	93.20	69.90		
80117	**COSMESIS ANTI-OXIDANT REJUVENATING HAND CREAM** - 2 oz jar	59.00	44.25		
	COSMESIS ANTI-OXIDANT REJUVENATING HAND CREAM - 2-2 oz jars	106.00	79.50		
80121	**COSMESIS ANTI-OXIDANT REJUVENATING HAND SCRUB** - 2 oz jar	52.95	39.71		
	COSMESIS ANTI-OXIDANT REJUVENATING HAND SCRUB - 2-2 oz jars	93.20	69.90		
80105	**COSMESIS ANTI-REDNESS & BLEMISH LOTION** - 1 oz	69.95	52.46		
	COSMESIS ANTI-REDNESS & BLEMISH LOTION - 2-1 oz bottles	123.12	92.34		
80120	**COSMESIS CORRECTIVE CLEARING MASK** - 2 oz jar	59.95	44.96		
	COSMESIS CORRECTIVE CLEARING MASK - 2-2 oz jars	105.52	79.14		
80108	**COSMESIS ESSENTIAL PLANT LIPIDS REPARATIVE SERUM** - 1 oz	71.60	53.70		
	COSMESIS ESSENTIAL PLANT LIPIDS REPARATIVE SERUM - 2-1 oz bottles	126.00	94.50		
80123	**COSMESIS FACE REJUVENATING ANTIOXIDANT CREAM** - 2 oz jar	65.00	48.75		
	COSMESIS FACE REJUVENATING ANTIOXIDANT CREAM - 2-2 oz jars	114.40	85.80		
80107	**COSMESIS FINE LINE-LESS** - 1 oz	69.95	52.46		
	COSMESIS FINE LINE-LESS - 2-1 oz bottles	123.12	92.34		
80131	**COSMESIS HAIR SUPPRESS FORMULA** - 4 oz bottle	53.75	40.31		
	COSMESIS HAIR SUPPRESS FORMULA - 2- 4 oz bottles	94.60	70.95		
80115	**COSMESIS HEALING MASK** - 2 oz bottle	59.95	44.96		
	COSMESIS HEALING MASK - 2-2 oz bottles	105.52	79.14		
80109	**COSMESIS HYALURONIC FACIAL MOISTURIZER** - 1 oz	52.95	39.71		
	COSMESIS HYALURONIC FACIAL MOISTURIZER - 2 bottles of 1 oz	93.20	69.90		
80110	**COSMESIS HYALURONIC OIL-FREE FACIAL MOISTURIZER** - 1 oz	52.95	39.71		
	COSMESIS HYALURONIC OIL-FREE FACIAL MOISTURIZER - 2 btls of 1 oz	93.20	69.90		
80103	**COSMESIS LIFTING & TIGHTENING COMPLEX** - 1 oz	69.95	52.46		
	COSMESIS LIFTING & TIGHTENING COMPLEX - 2 bottles of 1 oz	123.12	92.34		
80114	**COSMESIS MILD FACIAL CLEANSER** - 8 oz	52.95	39.71		
	COSMESIS MILD FACIAL CLEANSER - 2 bottles of 8 oz	93.20	69.90		
	SUB-TOTAL OF COLUMN 5				

No.		Retail	Member Price	Qty	Total
80122	**COSMESIS NECK REJUVENATING ANTIOXIDANT CREAM** - 2 oz jar	$59.00	$44.25		
	COSMESIS NECK REJUVENATING ANTIOXIDANT CREAM - 2-2 oz jars	106.00	79.50		
80119	**COSMESIS PEEL OFF CLEANSING MASK** - 2 oz bottle	59.95	44.96		
	COSMESIS PEEL OFF CLEANSING MASK - 2-2 oz bottles	105.52	79.14		
80111	**COSMESIS PIGMENT CORRECTING CREAM** - 1/2 oz	69.95	52.46		
	COSMESIS PIGMENT CORRECTING CREAM - 2 bottles of 1/2 oz	123.12	92.34		
80106	**COSMESIS REJUVENATING SERUM** - 1 oz	69.95	52.46		
	COSMESIS REJUVENATING SERUM - 2 bottles of 1 oz	123.12	92.34		
80112	**COSMESIS SKIN LIGHTENING SERUM** - 1/2 oz	79.95	59.96		
	COSMESIS SKIN LIGHTENING SERUM - 2 bottles of 1/2 oz	140.72	105.54		
80130	**COSMESIS SKIN STEM CELL SERUM** - 1 oz	69.00	51.75		
	COSMESIS SKIN STEM CELL SERUM - 2 bottles of 1 oz	128.00	96.00		
80116	**COSMESIS ULTRA LIP PLUMPER** - 1/3 oz	59.95	44.96		
	COSMESIS ULTRA LIP PLUMPER - 2 bottles of 1/3 oz	105.52	79.14		
80101	**COSMESIS ULTRA WRINKLE RELAXER** - 1 oz	89.95	67.46		
	COSMESIS ULTRA WRINKLE RELAXER - 2 bottles of 1 oz	159.52	119.64		
80113	**COSMESIS UNDER EYE REFINING SERUM** - 1/2 oz	69.95	52.46		
	COSMESIS UNDER EYE REFINING SERUM - 2 bottles of 1/2 oz	123.12	92.34		
80104	**COSMESIS UNDER EYE RESCUE CREAM** - 1/2 oz	69.95	52.46		
	COSMESIS UNDER EYE RESCUE CREAM - 2 bottles of 1/2 oz	123.12	92.34		
80129	**COSMESIS VITAMIN C SERUM** - 1 oz bottle	79.95	59.96		
	COSMESIS VITAMIN C SERUM - 2-1 oz bottles	140.72	105.54		
80102	**COSMESIS VITAMIN K HEALING CREAM** - 1 oz	74.95	56.21		
	COSMESIS VITAMIN K HEALING CREAM - 2 bottles of 1 oz	131.92	98.94		
00862	**CRAN-MAX®** - 500 mg, 60 veg. caps	17.50	13.13		
	CRAN-MAX® - 4 bottles of 60 veg. caps	60.00	45.00		
00609	**CREATINE CAPS MICRONIZED** - 120 caps	10.95	8.21		
	CREATINE CAPS MICRONIZED - 4 bottles of 120 caps	37.00	27.75		
00610	**CREATINE POWDER MICRONIZED** - 500 grams of powder	29.00	21.75		
	CREATINE POWDER MICRONIZED - 4 bottles of powder	106.52	79.89		
01096	**CREATINE-WHEY-GLUTAMINE POWDER** - 1 kg vanilla	45.00	33.75		
	CREATINE-WHEY-GLUTAMINE POWDER - 4 bottles of powder	168.00	126.00		
00912	**(SUPER) CURCUMIN W/BIOPERINE®** - 800 mg, 60 caps	20.75	15.56		
	(SUPER) CURCUMIN W/BIOPERINE® - 4 bottles of 60 caps	74.72	56.04		
00407	**(SUPER BIO) CURCUMIN®** - 400 mg, 60 veg. caps	30.00	22.50		
	(SUPER BIO) CURCUMIN® - 4 bottles of 60 veg. caps	106.00	79.50		
00126	**CYSTEINE ANHYDROUS POWDER** - 300 grams of powder	28.50	21.38		
	CYSTEINE ANHYDROUS POWDER - 4 bottles of powder	105.00	78.75		
00064	**(L) CYSTEINE CAPSULES** - 500 mg, 60 caps	15.95	11.96		
	(L) CYSTEINE CAPSULES - 4 bottles of 60 caps	56.00	42.00		
	D				
01313	**DERMA WHEY**- 400 mg, 60 caps	$65.00	$48.75		
	DERMA WHEY- 4 bottles of 60 caps	236.00	177.00		
00856	**(BARLEAN'S KID'S) DHA** (Fruit Punch Flavor)- 8 fl. oz	22.00	16.50		
	(BARLEAN'S KID'S) DHA (Fruit Punch Flavor)- 4 bottles of 8 fl. oz	80.00	60.00		
00995	**DHA 240** - 240 mg, 60 softgels	19.00	14.25		
	DHA 240 - 4 bottles of 60 softgels	68.00	51.00		
00658	**7-KETO® DHEA METABOLITE** - 25 mg, 100 caps	28.00	21.00		
	7-KETO® DHEA METABOLITE - 4 bottles of 100 caps	96.00	72.00		
01271	**7-KETO® DHEA METABOLITE** - 100 mg, 60 veg. caps	40.00	30.00		
	7-KETO® DHEA METABOLITE - 4 bottles of 60 veg. caps	144.00	108.00		
00607	**DHEA** - 25 mg dissolve in mouth 100 tablets pharmaceutical-grade	14.00	10.50		
	DHEA - 4 bottles of 100 tablets pharmaceutical-grade	47.00	35.25		
01250	**DHEA COMPLETE** - 60 veg. caps	48.00	36.00		
	DHEA COMPLETE - 4 bottles of 60 veg. caps	172.80	129.60		
	SUB-TOTAL OF COLUMN 6				

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No.		Retail	Member Price	Qty	Total
00335	**DHEA** - 25 mg, 100 caps	$15.00	$11.25		
	DHEA - 4 bottles of 100 caps	50.00	37.50		
00454	**DHEA** - 15 mg, 100 caps	12.00	9.00		
	DHEA - 4 bottles of 100 caps	40.00	30.00		
00882	**DHEA** - 50 mg, 60 caps	16.00	12.00		
	DHEA - 4 bottles of 60 caps	56.00	42.00		
00883	**DHEA** - 100 mg, 60 caps	22.50	16.88		
	DHEA - 4 bottles of 60 caps	76.00	57.00		
01058	**DHEA SKIN CREME** - 1.7 oz pump	29.99	22.49		
01358	**DIGEST RC** - 30 tablets	19.95	14.96		
	DIGEST RC - 4 boxes of 30 tablets	68.00	51.00		
01272	**(ENHANCED SUPER) DIGESTIVE ENZYMES** - 100 veg. caps	18.95	14.21		
	(ENHANCED SUPER) DIGESTIVE ENZYMES - 4 bottles of 100 veg. caps	64.00	48.00		
01273	**(ENHANCED SUPER) DIGESTIVE ENZYMES w/PROBIOTICS** - 100 veg. caps	24.00	18.00		
	(ENHANCED SUPER) DIGESTIVE ENZYMES w/PROBIOTICS - 4 bottles of 100 veg. caps	88.00	66.00		
00114	**DILAURYL THIODIPROPIONATE POWDER** - 100 grams of powder	22.00	16.50		
	DILAURYL THIODIPROPIONATE POWDER - 4 bottles of powder	80.00	60.00		
**01042	**(EUROPEAN LEG SOLUTION) DIOSMIN95** - 600 mg, 30 veg. tabs	20.00	15.00		
	(EUROPEAN LEG SOLUTION) DIOSMIN95 - 4 bottles of 30 veg. tabs	72.00	54.00		
00034	**D,L-PHENYLALANINE CAPSULES** - 500 mg, 100 caps	18.75	14.06		
	D,L-PHENYLALANINE CAPSULES - 4 bottles of 100 caps	64.00	48.00		
00033	**D,L-PHENYLALANINE PLUS POWDER** - 100 grams of powder	26.00	19.50		
	D,L-PHENYLALANINE PLUS POWDER - 4 bottles of powder	86.00	64.50		
00257	**DMAE BITARTRATE** - 150 mg, 200 caps	14.00	10.50		
	DMAE BITARTRATE - 4 bottles of 200 caps	42.00	31.50		
00022	**DMAE POWDER** (37% DMAE) - 100 grams of powder	24.00	18.00		
	DMAE POWDER (37% DMAE) - 4 bottles of powder	80.00	60.00		
00197	**DMAE-GINKGO CAPSULES** - 100 caps	36.00	27.00		
	DMAE-GINKGO CAPSULES - 4 bottles of 100 caps	120.00	90.00		
	DMAE-GINKGO CAPSULES - 8 bottles of 100 caps	220.00	165.00		
00059	**DMG** - 125 mg dimethylglycine, 60 tablets	18.50	13.88		
	DMG - 4 boxes of 60 tablets	68.00	51.00		
01052	**DNA PROTECTION FORMULA** - 60 veg. caps	28.00	21.00		
	DNA PROTECTION FORMULA - 4 bottles of 60 veg. caps	100.80	75.60		
00321	**DR. PROCTOR'S ADVANCED HAIR FORMULA** - 2 oz	39.95	29.96		
	DR. PROCTOR'S ADVANCED HAIR FORMULA - 4 bottles	128.00	96.00		
00320	**DR. PROCTOR'S HAIR FORMULA SHAMPOO** - 8 oz bottle	24.95	18.71		
	DR. PROCTOR'S HAIR FORMULA SHAMPOO - 4 bottles	88.00	66.00		
00376	**DR. TUNG'S TONGUE CLEANER**	8.45	6.34		
	DR. TUNG'S TONGUE CLEANERS - 4 quantity	32.20	24.15		
00899	**DUAL-ACTION MICRODERMABRASION ADV. EXFOLIATE** - 2.4 net oz jar	39.95	29.96		
	DUAL-ACTION MICRODERMABRASION ADV. EXFOLIATE - 4 jars of 2.4 net oz	155.80	116.85		
00240	**DUAL-C** - 90 caps	12.00	9.00		
	DUAL-C - 4 bottles of 90 caps	42.00	31.50		
	E				
00388	**ECHINACEA** - 250 mg, 60 caps	$14.35	$10.76		
	ECHINACEA - 4 bottles of 60 caps	50.00	37.50		
01024	**EDTA** - 500 mg, 100 caps	17.50	13.13		
01403	**ELIGEN® B12** - 100 mcg 30 veg tablets	28.00	21.00		
	ELIGEN® B12 - 4 bottles of 30 veg tablets	100.00	75.00		
01297	**ENDOTHELIAL DEFENSE™ w/GLISODIN® and COCOAGOLD™** - 60 veg. caps	54.00	40.50		
	ENDOTHELIAL DEFENSE™ w/GLISODIN® AND COCOAGOLD™ - 4 bottles of 60 veg. caps	192.00	144.00		
00625	**(MEGA) EPA/DHA** - 120 softgels	$19.95	$14.96		
	(MEGA) EPA/DHA - 4 bottles of 120 softgels	72.00	54.00		
	F				
†01054	**FACE MASTER® PLATINUM**	$199.00	$199.00		
00965	**FAST-ACTING JOINT FORMULA** - 30 caps	39.00	29.25		
	FAST-ACTING JOINT FORMULA - 4 bottles of 30 caps	144.00	108.00		
20053	**FEM DOPHILUS®** - 30 caps	24.95	18.71		
20055	**FEM DOPHILUS®** - 60 caps	35.95	26.96		
*01311	**(ENHANCED) FERNBLOCK® w/SENDARA™**- 30 veg. caps	39.00	29.25		
	(ENHANCED) FERNBLOCK® w/SENDARA™ - 4 bottles of 30 veg. caps	140.00	105.00		
00229	**FIBER FOOD CAPS** - 200 caps	15.00	11.25		
	FIBER FOOD CAPS - 4 bottles of 200 caps	50.00	37.50		
	FIBER FOOD CAPS - 10 bottles of 200 caps	119.00	89.25		
00228	**FIBER FOOD** - 300 grams of powder	15.00	11.25		
	FIBER FOOD - 4 bottles of powder	50.00	37.50		
	FIBER FOOD - 10 bottles of powder	119.00	89.25		
01307	**(ENHANCED) FIBER FOOD POWDER** - 453 grams of powder	34.00	25.50		
	(ENHANCED) FIBER FOOD POWDER - 4 jars of powder	120.00	90.00		
00718	**FIBRINOGEN RESIST FORMULA (NATTOKINASE)** - 30 veg. caps	49.00	36.75		
	FIBRINOGEN RESIST FORMULA (NATTOKINASE) - 4 bottles of 30 caps	176.00	132.00		
00873	**FLAXSEED POWDER (HI-LIGNAN NUTRI-FLAX)** - 16 oz powder	9.95	7.46		
01200	**FLORASTOR®** - 50 caps	55.15	41.36		
01312	**(OPTIMIZED) FOLATE (5-METHYLTETRAHYDROFOLATE)** - 100 veg. caps	28.00	21.00		
	(OPTIMIZED) FOLATE (5-METHYLTETRAHYDROFOLATE) - 4 bottles of 100 veg. caps	100.00	75.00		
00347	**FOLIC ACID + B12 CAPSULES** - 200 caps	10.50	7.88		
	FOLIC ACID + B12 CAPSULES - 4 bottles of 200 caps	38.00	28.50		
00148	**FOLIC ACID POWDER** - 30 grams of powder	16.00	12.00		
	FOLIC ACID POWDER - 4 bottles of powder	55.00	41.25		
00300	**FORSKOLIN** - 10 mg, 60 caps of elemental forskolin	15.00	11.25		
	FORSKOLIN - 4 bottles of 60 caps of elemental forskolin	50.00	37.50		
00993	**FUCOXANTHIN-SLIM™** - 90 softgels	44.00	33.00		
	FUCOXANTHIN-SLIM™ - 4 bottles of 90 softgels	156.00	117.00		
	G				
00127	**GABA POWDER** - 100 grams of powder	$23.75	$17.81		
	GABA POWDER - 4 bottles of powder	90.00	67.50		
00559	**GAMMA E TOCOPHEROL/TOCOTRIENOLS** - 60 softgels	42.00	31.50		
	GAMMA E TOCOPHEROL/TOCOTRIENOLS - 4 bottles of 60 softgels	148.00	111.00		
00759	**GAMMA E TOCOPHEROL W/SESAME LIGNANS** - 60 softgels	32.00	24.00		
	GAMMA E TOCOPHEROL W/SESAME LIGNANS - 4 bottles of 60 softgels	116.00	87.00		
00612	**GELATIN CAPSULES** - Set of 1000 empty caps size "0"	15.00	11.25		
	GELATIN CAPSULES - 4 Sets	56.00	42.00		
00117	**GELATIN CAPSULES** - Set of 1000 empty caps size "00"	19.00	14.25		
	GELATIN CAPSULES - 4 Sets	72.00	54.00		
01301	**GH PITUITARY SUPPORT DAY FORMULA** - 120 vegetarian tabs	48.00	36.00		
	GH PITUITARY SUPPORT DAY FORMULA - 4 bottles of 120 veg. tabs	176.00	132.00		
01302	**GH PITUITARY SUPPORT NIGHT FORMULA** - 120 veg. caps	25.00	18.75		
	GH PITUITARY SUPPORT NIGHT FORMULA - 4 bottles of 120 veg. caps	90.00	67.50		
00778	**GINKGO BILOBA CERTIFIED EXTRACT™** - 120 mg, 365 caps	46.00	34.50		
	GINKGO BILOBA CERTIFIED EXTRACT™ - 2 bottles of 365 caps	87.00	65.25		
00504	**(SUPER) GINKGO EXTRACT** - 120 mg, 100 caps	29.00	21.75		
	(SUPER) GINKGO EXTRACT - 4 bottles of 100 caps	106.00	79.50		
01032	**(PANAX RED) GINSENG** - 60 veg. caps	29.99	22.49		
00756	**(MEGA) GLA WITH SESAME LIGNANS** - 60 softgels	19.50	14.63		
	(MEGA) GLA WITH SESAME LIGNANS - 4 bottles of 60 softgels	72.00	54.00		
00345	**(L) GLUTAMINE CAPSULES** - 500 mg, 100 caps	14.95	11.21		
	(L) GLUTAMINE CAPSULES - 4 bottles of 100 caps	54.00	40.50		

* Due to license restrictions, this product is not for sale to wholesalers outside of the United States of America and Canada.
** Can only be sold in the United States and cannot be sold into the health food retail store channel.
† Member pricing not valid on this item.

SUB-TOTAL OF COLUMN 7

SUB-TOTAL OF COLUMN 8

LIFE EXTENSION MEMBERS RECEIVE 25% OFF THE RETAIL PRICE OF ALL PRODUCTS

DEDUCT AN ADDITIONAL 10% ON ALL PRODUCTS DURING SUPER SALE

Buyers Club Order Form

SUPER SALE SAVINGS ON ALL PRODUCTS
To order call: 1-954-766-8433 or 1-800-544-4440

No.		Retail	Member Price	Qty	Total
	G CONTINUED				
00141	**(L)-GLUTAMINE POWDER** - 100 grams of powder	$19.00	$14.25		
	(L)-GLUTAMINE POWDER - 4 bottles of powder	67.52	50.64		
00522	**GLUCOSAMINE/CHONDROITIN CAPSULES** - 100 caps	38.00	28.50		
	GLUCOSAMINE/CHONDROITIN CAPSULES - 4 bottles of 100 caps	128.00	96.00		
00512	**GLUCOFIT™ (COROSOLIC ACID)** - 100 softgels	28.00	21.00		
	GLUCOFIT™ (COROSOLIC ACID) - 4 bottles of 100 softgels	100.00	75.00		
00113	**GLUTATHIONE, C & CYSTEINE** - 750 mg, 100 caps	18.00	13.50		
	GLUTATHIONE, C & CYSTEINE - 4 bottles of 100 caps	64.00	48.00		
00314	**(MEGA) L-GLUTATHIONE** - 250 mg, 60 caps	35.95	26.96		
	(MEGA) L-GLUTATHIONE - 4 bottles of 60 caps	129.44	97.08		
00795	**GLYCINE CAPSULES** - 1000 mg, 100 caps	12.00	9.00		
	GLYCINE CAPSULES - 4 bottles of 100 caps	43.20	32.40		
00128	**GLYCINE POWDER** - 300 grams of powder	18.00	13.50		
	GLYCINE POWDER - 4 bottles of powder	64.00	48.00		
01091	**(WHOLE) GRAPE EXTRACT w/RESVERATROL** - 60 veg. caps	36.00	27.00		
	(WHOLE) GRAPE EXTRACT w/RESVERATROL - 4 bottles of 60 veg. caps	136.00	102.00		
01411	**GRAPE SEED EXTRACT w/RESVERATROL & PTEROSTILBENE**-100 mg, 60 veg. caps	36.00	27.00		
	GRAPE SEED EXTRACT w/RESVERATROL & PTEROSTILBENE-4 bottles of 60 veg. caps	136.00	102.00		
00203	**GREEN TEA LEAVES** - 300 grams of powder	15.00	11.25		
	GREEN TEA LEAVES - 4 bottles of powder	50.00	37.50		
00953	**(MEGA) GREEN TEA EXTRACT** - lightly caffeinated - 100 veg. caps	28.00	21.00		
	(MEGA) GREEN TEA EXTRACT - 4 bottles of 100 veg. caps	106.00	79.50		
00954	**(MEGA) GREEN TEA EXTRACT** - decaffeinated - 100 veg. caps	28.00	21.00		
	(MEGA) GREEN TEA EXTRACT - 4 bottles of 100 veg. caps	106.00	79.50		
	H				
00230	**HCA** - 90 caps	$18.00	$13.50		
	HCA - 4 bottles of 90 caps	62.00	46.50		
00656	**HEPATOPRO** - 900 mg, 60 softgel	49.50	37.13		
	HEPATOPRO - 4 bottles of 60 softgel	188.00	141.00		
00138	**HESPERIDIN COMPLEX POWDER** - 300 grams of powder	19.00	14.25		
	HESPERIDIN COMPLEX POWDER - 4 bottles of powder	65.00	48.75		
00873	**HI-LIGNAN NUTRI-FLAX** - 16 oz powder	9.95	7.46		
00800	**HOMOCYSTEINE RESIST** - 100 caps	24.00	18.00		
	HOMOCYSTEINE RESIST - 4 bottles of 100 caps	86.40	64.80		
00067	**HOODIA GORDONII** - 60 caps	14.00	10.50		
00627	**HUPERZINE A W/NATURAL VITAMIN E** - 50 mcg, 60 caps	27.95	20.96		
	HUPERZINE A W/NATURAL VITAMIN E - 4 bottles of 60 caps	96.00	72.00		
00661	**HYDRODERM®** - 1 oz bottle	79.95	59.96		
	HYDRODERM® - 2 - 1 oz bottles	130.66	98.00		
	I				
00955	**IMMUNE PROTECT W/PARACTIN®** - 30 veg. caps	$29.50	$22.13		
	IMMUNE PROTECT W/PARACTIN® - 4 bottles of 30 veg. caps	106.20	79.65		
01004	**INNERPOWER™ W/SWEET STEVIA**- Tropical Flavor Powder	44.00	33.00		
00155	**INOSINE CAPSULES** - 500 mg, 60 caps	22.95	17.21		
	INOSINE CAPSULES - 4 bottles of 60 caps	84.00	63.00		
00140	**INOSINE POWDER** - 100 grams of powder	52.00	39.00		
	INOSINE POWDER - 4 bottles of powder	180.00	135.00		
00109	**INOSITOL CAPSULES** - 500 mg, 100 caps	13.50	10.13		
	INOSITOL CAPSULES - 4 bottles of 100 caps	50.00	37.50		
00410	**INOSITOL CAPSULES** - 1000 mg, 360 caps	48.00	36.00		
	INOSITOL CAPSULES - 4 bottles of 360 caps	175.00	131.25		
00108	**INOSITOL POWDER** - 100 grams of powder	18.00	13.50		
	INOSITOL POWDER - 4 bottles of powder	67.52	50.64		
01021	**INTACT™ DIGEST** - 8 fl oz	29.95	22.46		
	INTACT™ DIGEST - 4 - 8 fl oz bottles	112.00	84.00		
	SUB-TOTAL OF COLUMN 9				

No.		Retail	Member Price	Qty	Total
01292	**INTEGRA-LEAN® IRVINGIA** - 150 mg, 60 veg. caps	$56.00	$42.00		
	INTEGRA-LEAN® IRVINGIA - 4 bottles of 60 veg. caps	192.00	144.00		
01002	**IODORAL** - 180 caps	50.00	37.50		
00563	**IRON PROTEIN PLUS** - 300 mg, 100 caps	24.00	18.00		
	IRON PROTEIN PLUS - 4 bottles of 100 caps	88.00	66.00		
01492	**(OPTIMIZED) IRVINGIA W/PHASE 3™** - 120 veg. caps **CALORIE CONTROL COMPLEX**	78.00	58.50		
	(OPTIMIZED) IRVINGIA w/PHASE 3™ - 4 bottles of 120 veg. caps **CALORIE CONTROL COMPLEX**	288.00	216.00		
	J, K				
00056	**JARRO-DOPHILUS EPS™** - 60 veg. caps	$19.95	$14.96		
01224	**(SUPER) K WITH ADVANCED K2 COMPLEX** - 90 softgels	26.00	19.50		
	(SUPER) K WITH ADVANCED K2 COMPLEX - 4 bottles of 90 softgels	92.00	69.00		
01050	**NKO KRILL OIL** - 60 softgels	33.95	25.46		
00316	**KYOLIC® GARLIC FORMULA 102** - 350 mg, 200 caps	23.95	17.96		
	KYOLIC® GARLIC FORMULA 102 - 4 bottles of 200 caps	82.00	61.50		
00214	**KYOLIC® GARLIC FORMULA 105** - 200 caps	22.95	17.21		
	KYOLIC® GARLIC FORMULA 105 - 4 bottles of 200 caps	73.00	54.75		
00789	**KYOLIC® RESERVE** - 600 mg, 120 caps	24.75	18.56		
	KYOLIC® RESERVE - 4 bottles of 120 caps	85.80	64.36		
	L				
00513	**LACTOFERRIN (APOLACTOFERRIN) CAPS** - 300 mg, 60 caps	$40.00	$30.00		
	LACTOFERRIN (APOLACTOFERRIN) CAPS - 4 bottles of 60 caps	144.00	108.00		
00017	**LAVILIN UNDERARM DEODORANT** - 12.5 grams of cream	15.00	11.25		
	LAVILIN UNDERARM DEODORANT - 4 jars of cream	55.00	41.25		
01003	**LIFE EXTENSION CAT MIX** - 100 grams of powder	15.00	11.25		
	LIFE EXTENSION CAT MIX - 4 bottles of powder	48.00	36.00		
00544	**LIFE EXTENSION DOG MIX** - 100 grams of powder	19.50	14.63		
	LIFE EXTENSION DOG MIX - 4 bottles of powder	64.00	48.00		
00010	**LIFE EXTENSION HAIR CONDITIONER** - 16 oz bottle	6.00	4.50		
	LIFE EXTENSION HAIR CONDITIONER - 4 bottles	18.00	13.50		
00020	**LIFE EXTENSION LECITHIN GRANULES** - 16 oz. jar	15.00	11.25		
	LIFE EXTENSION LECITHIN GRANULES - 4 jars	50.00	37.50		
00019	**LIFE EXTENSION LECITHIN w/B5 AND BHA** - 16 oz. jar	15.00	11.25		
	LIFE EXTENSION LECITHIN w/B5 AND BHA - 4 16 oz. 4 jars	50.00	37.50		
01455	**LIFE EXTENSION MIX™** - 315 tablets	98.00	73.50		
	LIFE EXTENSION MIX™ - 4 bottles of 315 tablets	344.00	258.00		
	LIFE EXTENSION MIX™ - 10 bottles of 315 tablets	695.00	521.25		
01457	**LIFE EXTENSION MIX™ w/EXTRA NIACIN** - 315 tablets	98.00	73.50		
	LIFE EXTENSION MIX™ w/EXTRA NIACIN - 4 bottles of 315 tablets	344.00	258.00		
	LIFE EXTENSION MIX™ w/EXTRA NIACIN - 10 bottles of 315 tablets	695.00	521.25		
01454	**LIFE EXTENSION MIX™** - 490 caps	110.00	82.50		
	LIFE EXTENSION MIX™ - 4 bottles of 490 caps	392.00	294.00		
	LIFE EXTENSION MIX™ - 10 bottles of 490 caps	850.00	637.50		
01456	**LIFE EXTENSION MIX™ POWDER** - 14.81 oz of powder	98.00	73.50		
	LIFE EXTENSION MIX™ POWDER - 4 bottles of powder	344.00	258.00		
	LIFE EXTENSION MIX™ POWDER - 10 bottles of powder	720.00	540.00		
01465	**LIFE EXTENSION MIX™** - 315 tablets without copper	98.00	73.50		
	LIFE EXTENSION MIX™ - 4 bottles of 315 tablets without copper	344.00	258.00		
	LIFE EXTENSION MIX™ - 10 bottles of 315 tablets without copper	695.00	521.25		
01467	**LIFE EXTENSION MIX™ w/EXTRA NIACIN** 315 tablets w/o copper	98.00	73.50		
	LIFE EXTENSION MIX™ w/EXTRA NIACIN 4 bottles of 315 tablets w/o copper	344.00	258.00		
	LIFE EXTENSION MIX™ W/EXTRA NIACIN 10 bottles of 315 tablets w/o copper	695.00	521.25		
	SUB-TOTAL OF COLUMN 10				

LIFE EXTENSION MEMBERS RECEIVE 25% OFF THE RETAIL PRICE OF ALL PRODUCTS

DEDUCT AN ADDITIONAL 10% ON ALL PRODUCTS DURING SUPER SALE

OFFER ENDS FEBRUARY 1, 2010
To order online visit www.lifeextension.com/SuperSale

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No.		Retail	Member Price	Qty	Total
01464	**LIFE EXTENSION MIX™** - 490 caps without copper	$110.00	$82.50		
	LIFE EXTENSION MIX™ - 4 bottles of 490 caps without copper	392.00	294.00		
	LIFE EXTENSION MIX™ - 10 bottles of 490 caps without copper	850.00	637.50		
01466	**LIFE EXTENSION MIX™ POWDER** - 14.81 oz of powder without copper	98.00	73.50		
	LIFE EXTENSION MIX™ POWDER - 4 bottles of powder without copper	344.00	258.00		
	LIFE EXTENSION MIX™ POWDER - 10 bottles of powder without copper	720.00	540.00		
01279	**LIFE EXTENSION MOUTHWASH w/POMEGRANATE** - 16 oz bottle	18.50	13.88		
	LIFE EXTENSION MOUTHWASH w/POMEGRANATE - 4 -16 oz bottle	68.00	51.00		
01401	**LIFE EXTENSION ONE-PER-DAY** - 60 veg. tablets	19.95	14.96		
	LIFE EXTENSION ONE-PER-DAY - 4 bottles of 60 veg. tablets	72.00	54.00		
00011	**LIFE EXTENSION SHAMPOO** - 16 oz bottle	6.00	4.50		
	LIFE EXTENSION SHAMPOO - 4 bottles	19.00	14.25		
01278	**LIFE EXTENSION TOOTHPASTE MINT FLAVOR** - 4 oz	9.50	7.13		
	LIFE EXTENSION TOOTHPASTE MINT FLAVOR - 4, 4 oz tubes	34.68	26.00		
01416	**LIFE EXTENSION TWO-PER-DAY** - 60 veg. tablets	9.95	7.46		
	LIFE EXTENSION TWO-PER-DAY - 4 bottles of 60 veg. tablets	36.00	27.00		
01415	**LIFE EXTENSION TWO-PER-DAY** - 120 veg. tablets	18.95	14.21		
	LIFE EXTENSION TWO-PER-DAY - 4 bottles of 120 veg. tablets	68.00	51.00		
00263	**LIFE FLORA™** - 300 mg, 120 caps	20.50	15.38		
	LIFE FLORA™ - 4 bottles of 120 caps	75.00	56.25		
00032	**LIFE MIX** - 1 lb can of powder	25.00	18.75		
	LIFE MIX - 4 cans of powder	90.00	67.50		
00294	**LIQUID EMULSIFIED VITAMIN A DROPS** - 20,000 IU per drop	27.00	20.25		
	LIQUID EMULSIFIED VITAMIN A DROPS - 4 bottles	96.00	72.00		
00939	**5-LOXIN®** - 75 mg, 100 veg. caps	19.50	14.63		
	5-LOXIN® - 4 bottles of 100 veg. caps	69.00	51.75		
01013	**L-LYSINE CAPSULES** - 620 mg, 100 caps	9.00	6.75		
	L-LYSINE CAPSULES - 4 bottles of 100 caps	32.00	24.00		
00129	**L-LYSINE POWDER** - 300 grams of powder	16.00	12.00		
	L-LYSINE POWDER - 4 bottles of powder	55.00	41.25		
01017	**LUSTRE™** - 90 tablets	17.00	12.75		
	LUSTRE™ - 4 bottles of 90 tablets	61.00	45.75		
01014	**LUTEIN PLUS** - 150 grams of powder	25.00	18.75		
	LUTEIN PLUS - 4 bottles of powder	88.00	66.00		
01028	**LYCOPENE** - 10 mg, 60 softgels	24.98	18.74		
00455	**(MEGA) LYCOPENE EXTRACT** - 15 mg, 90 softgels	35.00	26.25		
	(MEGA) LYCOPENE EXTRACT - 4 bottles of 90 softgels	120.00	90.00		
	M				
01044	**MAGNESIUM CAPS** - 500 mg, 100 caps	$9.50	$7.13		
	MAGNESIUM CAPS - 4 bottles of 100 caps	32.00	24.00		
00502	**MAGNESIUM CITRATE CAPS** - 160 mg, 100 caps	9.00	6.75		
	MAGNESIUM CITRATE CAPS - 4 bottles of 100 caps	30.00	22.50		
00057	**MAGNESIUM OXIDE POWDER** - 1 kilogram of powder	14.00	10.50		
	MAGNESIUM OXIDE POWDER - 4 bottles of powder	52.52	39.39		
00704	**MAITAKE™ SX-FRACTION** - 90 tablets	49.95	37.46		
00048	**(SUPER) MAX EPA** - 12 oz liquid concentrate	18.50	13.88		
	(SUPER) MAX EPA - 4 bottles of concentrate	66.00	49.50		
00547	**MELATONIN** - 300 mcg, 100 caps	5.75	4.31		
	MELATONIN - 4 bottles of 100 caps	20.00	15.00		
00328	**MELATONIN CAPSULES** - 500 mcg, 200 caps	16.00	12.00		
	MELATONIN CAPSULES - 4 bottles of 200 caps	56.00	42.00		
00329	**MELATONIN CAPSULES** - 1 mg, 60 caps	5.00	3.75		
	MELATONIN CAPSULES - 4 bottles of 60 caps	18.52	13.89		

SUB-TOTAL OF COLUMN 11

No.		Retail	Member Price	Qty	Total
00330	**MELATONIN CAPSULES** - 3 mg, 60 caps	$8.00	$6.00		
	MELATONIN CAPSULES - 4 bottles of 60 caps	27.52	20.64		
00333	**MELATONIN CAPSULES** - 3 mg, 60 time-release caps	10.50	7.88		
	MELATONIN CAPSULES - 4 bottles of 60 time-release caps	37.52	28.14		
00331	**MELATONIN CAPSULES** - 10 mg, 60 caps	28.00	21.00		
	MELATONIN CAPSULES - 4 bottles of 60 caps	96.00	72.00		
00332	**MELATONIN LOZENGES** - 3 mg, 60 dissolve-in-mouth lozenges	8.00	6.00		
	MELATONIN LOZENGES - 4 bottles of 60 dissolve-in-mouth lozenges	27.52	20.64		
00546	**MELATONIN TIME RELEASE** - 300 mcg, 100 caps	6.25	4.69		
	MELATONIN TIME RELEASE - 4 bottles of 100 caps	22.52	16.89		
00540	**MELATONIN TIME RELEASE** - 750 mcg, 60 caps	5.75	4.31		
	MELATONIN TIME RELEASE - 4 bottles of 60 caps	20.00	15.00		
01009	**MEMORY UPGRADE** - 600 grams powder	26.95	20.21		
01047	**MENOPAUSE SOLUTIONS** - 120 tablets	49.95	37.46		
00536	**METHYLCOBALAMIN** - 1 mg, 60 dissolve-in-mouth lozenges (vanilla)	9.95	7.46		
	METHYLCOBALAMIN - 4 bottles of 60 dissolve-in-mouth lozenges	32.00	24.00		
00537	**METHYLCOBALAMIN** - 5 mg, 60 dissolve-in-mouth lozenges (vanilla)	32.00	24.00		
	METHYLCOBALAMIN - 4 bottles of 60 dissolve-in-mouth lozenges	100.00	75.00		
	METHYLCOBALAMIN - 10 bottles of 60 dissolve-in-mouth lozenges	230.00	172.50		
00130	**L-METHIONINE POWDER** - 100 grams of powder	22.00	16.50		
	L-METHIONINE POWDER - 4 bottles of powder	75.00	56.25		
00709	**MIGRA-EEZE (BUTTERBUR)** - 60 softgels	29.50	22.13		
	MIGRA-EEZE (BUTTERBUR) - 4 bottles of 60 softgels	105.32	79.00		
00623	**MINERAL FORMULA FOR MEN** - 100 caps	15.00	11.25		
	MINERAL FORMULA FOR MEN - 4 bottles of 100 caps	50.00	37.50		
	MINERAL FORMULA FOR MEN - 12 bottles of 100 caps	130.00	97.50		
00624	**MINERAL FORMULA FOR WOMEN** - 100 caps	15.00	11.25		
	MINERAL FORMULA FOR WOMEN - 4 bottles of 100 caps	50.00	37.50		
	MINERAL FORMULA FOR WOMEN - 12 bottles of 100 caps	130.00	97.50		
01315	**(SUPER) MIRAFORTE w/STANDARDIZED LIGNANS** - 120 caps	62.00	46.50		
	(SUPER) MIRAFORTE w/STANDARDIZED LIGNANS - 4 bottles of 120 caps	224.00	168.00		
01368	**MITOCHONDRIAL ENERGY OPTIMIZER** - 120 caps	86.00	64.50		
	MITOCHONDRIAL ENERGY OPTIMIZER - 4 bottles of 120 caps	312.00	234.00		
00803	**MISTORAL III w/COQ10** - 2 fl oz bottle	28.00	21.00		
	MISTORAL III w/COQ10 - 4 bottles	101.32	75.99		
00065	**MK-7** - 90 mcg, 60 softgels	28.00	21.00		
	MK-7 - 4 bottles of 60 softgels	100.00	75.00		
00451	**MSM (METHYL-SULFONYL-METHANE)** - 1000 mg, 100 caps	14.00	10.50		
	MSM (METHYL-SULFONYL-METHANE) - 4 bottles of 100 caps	47.80	35.85		
	N				
00215	**N-ACETYL CYSTEINE CAPSULES** - 600 mg, 60 caps	$14.00	$10.50		
	N-ACETYL CYSTEINE CAPSULES - 4 bottles of 60 caps	54.00	40.50		
00168	**NAPCA W/ALOE VERA** - 8 fl oz bottle	9.50	7.13		
	NAPCA W/ALOE VERA - 4 bottles	35.00	26.25		
00066	**NATTOKINASE** - 60 softgels	34.98	26.24		
00718	**NATTOKINASE (FIBRINOGEN RESIST FORMULA)** - 30 caps	49.00	36.75		
	NATTOKINASE (FIBRINOGEN RESIST FORMULA) - 4 bottles of 30 caps	176.00	132.00		
00891	**NATURAL APPETITE CONTROL** - 90 softgels	28.00	21.00		
	NATURAL APPETITE CONTROL - 4 bottles of 90 softgels	100.80	75.60		
00984	**NATURAL BP MANAGEMENT** - 60 tablets	42.00	31.50		
	NATURAL BP MANAGEMENT - 4 bottles of 60 tablets	151.20	113.40		
00913	**NATURAL ESOPHAGUARD** - 10 softgels	19.95	14.96		
	NATURAL ESOPHAGUARD - 2 boxes of 10 softgels	38.00	28.50		

SUB-TOTAL OF COLUMN 12

LIFE EXTENSION MEMBERS RECEIVE 25% OFF THE RETAIL PRICE OF ALL PRODUCTS

DEDUCT AN ADDITIONAL 10% ON ALL PRODUCTS DURING SUPER SALE

Buyers Club Order Form

SUPER SALE SAVINGS ON ALL PRODUCTS
To order call: 1-954-766-8433 or 1-800-544-4440

No.		Retail	Member Price	Qty	Total
	N CONTINUED				
00712	**NATURAL ESTROGEN w/POMEGRANATE EXTRACT** - 60 caplets	$38.00	$28.50		
	NATURAL ESTROGEN w/POMEGRANATE EXTRACT - 4 bottles of 60 caplets	132.00	99.00		
01221	**NATURAL FEMALE SUPPORT** - 30 veg. caps	28.00	21.00		
	NATURAL FEMALE SUPPORT - 4 bottles of 30 veg. caps	96.00	72.00		
00698	**NATURAL RELIEF 1222™** - 2 oz tube	28.00	21.00		
	NATURAL RELIEF 1222™ - 4, 2 oz tubes	100.00	75.00		
00990	**NATURAL SLEEP** - 3 mg, 60 caps	12.99	9.74		
	NATURAL SLEEP - 4 bottles of 60 caps	40.00	30.00		
00277	**NATURAL SLEEP MELATONIN** - 5 mg, 60 caps	18.00	13.50		
	NATURAL SLEEP MELATONIN - 4 bottles of 60 caps	64.00	48.00		
00987	**NATURAL STRESS RELIEF** - 30 veg. caps	28.00	21.00		
	NATURAL STRESS RELIEF - 4 bottles of 30 veg. caps	96.00	72.00		
01000	**NEW FACE SOLUTION** - 1.7 oz bottle	54.00	40.50		
	NEW FACE SOLUTION - 4 bottles of 1.7 oz	196.00	147.00		
00096	**NIACIN (B-3) CAPSULES** - 1000 mg, 100 caps	12.75	9.56		
	NIACIN (B-3) CAPSULES - 4 bottles of 100 caps	48.00	36.00		
00372	**NIACIN (B-3) CAPSULES** - 500 mg, 100 caps	7.65	5.74		
	NIACIN (B-3) CAPSULES - 4 bottles of 100 caps	26.60	19.95		
00373	**NO-FLUSH NIACIN** - 800 mg, 100 caps	19.00	14.25		
	NO-FLUSH NIACIN - 4 bottles of 100 caps	68.00	51.00		
01050	**NKO KRILL OIL** - 60 softgels	33.95	25.46		
00262	**NUTRAFLORA** - 500 grams of powder	46.00	34.50		
	NUTRAFLORA - 4 bottles of powder	160.00	120.00		
01035	**NUTRIM POWDER** - 170 grams powder	25.95	19.46		
00523	**N-ZIMES®** - 270 caps	23.90	17.93		
	N-ZIMES® - 4 bottles of 270 caps	88.00	66.00		
	O				
00104	**OCTACOSANOL** - 8000 mcg, 60 caps	$15.75	$11.81		
	OCTACOSANOL - 4 bottles of 60 caps	56.00	42.00		
01483	**(SUPER) OMEGA 3 EPA/DHA w/SESAME LIGNANS & OLIVE FRUIT EXTRACT** - 60 softgels	18.00	13.50		
	(SUPER) OMEGA 3 EPA/DHA w/SESAME LIGNANS & OLIVE FRUIT EXTRACT- 4 bottles of 60 softgels	64.00	48.00		
01482	**(SUPER) OMEGA 3 EPA/DHA w/SESAME LIGNANS & OLIVE FRUIT EXTRACT** - 120 softgels	32.00	24.00		
	(SUPER) OMEGA 3 EPA/DHA w/SESAME LIGNANS & OLIVE FRUIT EXTRACT- 4 bottles of 120 softgels	112.00	84.00		
	(SUPER) OMEGA 3 EPA/DHA W/SESAME LIGNANS & OLIVE FRUIT EXTRACT - 10 bottles of 120 softgels	249.00	186.75		
01484	**(SUPER) OMEGA 3 EPA/DHA w/SESAME LIGNANS & OLIVE FRUIT EXTRACT** (ENTERIC COATED) - 120 softgels	34.00	25.50		
	(SUPER) OMEGA 3 EPA/DHA w/SESAME LIGNANS & OLIVE FRUIT EXTRACT (ENTERIC COATED) - 4 bottles of 120 softgels	124.00	93.00		
	(SUPER) OMEGA 3 EPA/DHA W/SESAME LIGNANS & OLIVE FRUIT EXTRACT (ENTERIC COATED) - 10 bottles of 120 softgels	280.00	210.00		
00717	**ONLY TRACE MINERALS** - 90 caps	15.00	11.25		
	ONLY TRACE MINERALS - 4 bottles of 90 caps	50.00	37.50		
00915	**OPTIZINC®** - 30 mg, 90 veg. caps	5.95	4.46		
	OPTIZINC® - 4 bottles of 90 veg. caps	20.00	15.00		
00043	**L-ORNITHINE CAPSULES** - 500 mg, 100 caps	24.95	18.71		
	L-ORNITHINE CAPSULES - 4 bottles of 100 caps	80.00	60.00		
	P				
00107	**PABA CAPS** - 500 mg, 100 caps	$10.50	$7.88		
	PABA CAPS - 4 bottles of 100 caps	37.50	28.12		
00106	**PABA POWDER** - 100 grams of powder	15.00	11.25		
	PABA POWDER - 4 bottles of powder	55.00	41.25		
	SUB-TOTAL OF COLUMN 13				

No.		Retail	Member Price	Qty	Total
00073	**PANCREATIN** - 500 mg, 50 caps	$9.75	$7.31		
	PANCREATIN - 4 bottles of 50 caps	36.00	27.00		
00137	**PAPAIN POWDER** - 100 grams of powder	24.00	18.00		
	PAPAIN POWDER - 4 bottles of powder	80.00	60.00		
00923	**PEAK ATP® WITH GLYCOCARN®** - 60 tablets	59.00	44.25		
	PEAK ATP® WITH GLYCOCARN® - 4 bottles of 60 tablets	224.00	168.00		
00342	**PECTA-SOL** - One-month supply modified citrus pectin	99.95	74.96		
	PECTA-SOL - Four-month supply modified citrus pectin	382.80	287.10		
00872	**PGX FIBER POWDER (SLIMSTYLES)** - 6.4 oz powder	22.95	17.21		
00673	**(WELLBETX) PGX SOLUBLE FIBER BLEND** -180 caps	34.95	26.21		
00865	**PHARMAGABA™** - 60 chewable tablets	29.95	22.46		
	PHARMAGABA™ - 4 bottles of 60 chewable tablets	108.00	81.00		
00131	**L-PHENYLALANINE POWDER** - 100 grams of powder	28.00	21.00		
	L-PHENYLALANINE POWDER - 4 bottles of powder	100.00	75.00		
00368	**PHOSPHATIDYLSERINE CAPS** - 100 mg, 100 caps	54.00	40.50		
	PHOSPHATIDYLSERINE CAPS - 4 bottles of 100 caps	192.00	144.00		
01016	**PHYTO-FOOD** - 80 grams of powder	46.00	34.50		
	PHYTO-FOOD - 4 bottles of powder	172.00	129.00		
00614	**PILL CUTTER/GRINDER**	11.95	8.96		
00561	**POLICOSANOL** - 10 mg, 60 tablets	24.00	18.00		
	POLICOSANOL - 6 bottles of 60 tablets	108.00	81.00		
00994	**(SUPER) POLYPHENOL EXTRACT w/ COCOAGOLD™** - 30 veg caps	24.00	18.00		
	(SUPER) POLYPHENOL EXTRACT w/ COCOAGOLD™ - 4 bottles of 30 veg. caps	84.00	63.00		
00956	**POMEGRANATE EXTRACT** - 30 veg. caps	19.50	14.63		
	POMEGRANATE EXTRACT - 4 bottles of 30 veg. caps	70.20	52.64		
01256	**POMEGRANATE EXTRACT w/ COCOAGOLD™** - 30 veg caps	24.00	18.00		
	POMEGRANATE EXTRACT w/ COCOAGOLD™ - 4 bottles of 30 veg caps	84.00	63.00		
00957	**POMEGRANATE JUICE CONCENTRATE** - 16 oz. liquid	25.95	19.46		
	POMEGRANATE JUICE CONCENTRATE - 4 bottles of 16 oz liquid	96.00	72.00		
00577	**POTASSIUM IODIDE** - 1 box, 14 tablets	6.95	5.21		
	POTASSIUM IODIDE - 4 boxes, 14 tablets	21.00	15.75		
00302	**PREGNENOLONE CAPSULES** - 50 mg, 100 caps	24.00	18.00		
	PREGNENOLONE CAPSULES - 4 bottles of 100 caps	76.00	57.00		
00700	**PREGNENOLONE CAPSULES** - 100 mg, 100 caps	26.00	19.50		
	PREGNENOLONE CAPSULES - 4 bottles of 100 caps	90.00	67.50		
*01373	**PRELOX® NATURAL SEX FOR MEN®** - 60 tablets	50.00	37.50		
	PRELOX® NATURAL SEX FOR MEN® - 4 bottles of 60 tablets	180.00	135.00		
00571	**PRIMAL DEFENSE®** - 900 mg, 90 caplets	49.95	37.46		
	PRIMAL DEFENSE® - 4 bottles of 90 caplets	194.00	145.50		
01019	**PRIMAL DEFENSE®** - 180 caplets	78.95	59.21		
00525	**PROBOOST THYMIC PROTEIN A™** - 4 mcg, 30 packets	72.00	54.00		
	PROBOOST THYMIC PROTEIN A™ - 4 boxes	280.00	210.00		
00869	**PRO FEM CREAM** - 2 oz jar, Progesterone Cream	26.00	19.50		
	PRO FEM CREAM - 4, 2 oz jars, Progesterone Cream	96.00	72.00		
01020	**PROGREENS®** - 15 stick pack	22.50	16.88		
00396	**PRO M** - 500 mg, 100 caps	28.00	21.00		
	PRO M - 4 bottles of 100 caps	104.00	78.00		
*01475	**(ULTRA NAT) PROSTATE FORMULA w/ 5-LOXIN® STAND. LIGNANS**-60 softgels	38.00	28.50		
	(ULTRA NAT) PROSTATE FORMULA w/ 5-LOXIN® STAND. LIGNANS-4 bot of 60 softgels	140.00	105.00		
	(ULTRA NAT) PROSTATE FORMULA w/ 5-LOXIN® STAND. LIGNANS-12 bot of 60 softgels	384.00	288.00		
01092	**(ENHANCED LIFE EXTENSION) PROTEIN (VANILLA)** - 1 kg. of powder	38.00	28.50		
	(ENHANCED LIFE EXTENSION) PROTEIN (VANILLA) - 4 bot of powder	144.00	108.00		
01093	**(ENHANCED LIFE EXTENSION) PROTEIN (CHOCOLATE)** - 1 kg of powder	38.00	28.50		
	(ENHANCED LIFE EXTENSION) PROTEIN (CHOCOLATE) - 4 bot of powder	144.00	108.00		
	SUB-TOTAL OF COLUMN 14				

* Product cannot be sold outside the USA.

LIFE EXTENSION MEMBERS RECEIVE 25% OFF THE RETAIL PRICE OF ALL PRODUCTS

DEDUCT AN ADDITIONAL 10% ON ALL PRODUCTS DURING SUPER SALE

OFFER ENDS FEBRUARY 1, 2010
To order online visit www.lifeextension.com/SuperSale

Buyers Club Order Form

No.		Retail	Member Price	Qty	Total
01094	**(ENHANCED LIFE EXTENSION) PROTEIN (NATURAL)** - 1 kg of powder	$38.00	$28.50		
	(ENHANCED LIFE EXTENSION) PROTEIN (NATURAL) - 4 bot of powder	144.00	108.00		
01095	**(ENHANCED LIFE EXTENSION) PROTEIN (BERRY)** - 1 kg of powder	38.00	28.50		
	(ENHANCED LIFE EXTENSION) PROTEIN (BERRY) - 4 bot of powder	144.00	108.00		
00290	**(DESIGNER WHEY) PROTEIN** - Vanilla 2 lbs of powder	41.95	31.46		
	(DESIGNER WHEY) PROTEIN - 4 bottles of Vanilla powder	152.00	114.00		
00282	**(DESIGNER WHEY) PROTEIN** - Chocolate 2 lbs of powder	41.95	31.46		
	(DESIGNER WHEY) PROTEIN - 4 bottles of Chocolate powder	152.00	114.00		
00283	**(DESIGNER WHEY) PROTEIN** - Natural 2 lbs of powder	41.95	31.46		
	(DESIGNER WHEY) PROTEIN - 4 bottles of Natural powder	152.00	114.00		
01056	**PURE-GAR®** - 200 caps	24.95	18.71		
	PURE-GAR® - 4 bottles of 200 caps	84.00	63.00		
01209	**(WATER-SOLUBLE) PUMPKIN SEED EXTRACT** - 60 veg. caps	20.00	15.00		
	(WATER-SOLUBLE) PUMPKIN SEED EXTRACT - 4 bottles 60 veg. caps	72.00	54.00		
01210	**(WATER-SOLUBLE) PUMPKIN SEED EXT w/SOY ISOFLAVONES** - 60 veg. caps	22.00	16.50		
	(WATER-SOLUBLE) PUMPKIN SEED EXT w/SOY ISOFLAVONES - 4 bottles 60 veg.	80.00	60.00		
01031	**PYCNOGENOL®** - 60 veg. caps	86.95	65.21		
01207	**PYRIDOXAMINE CAPS** - 50 mg, 60 veg. caps	22.00	16.50		
	PYRIDOXAMINE CAPS - 4 bottles of 60 veg. caps	79.20	59.40		
Q, R					
01309	**(OPTIMIZED) QUERCETIN** - 250 mg, 60 veg. caps	$18.00	$13.50		
	(OPTIMIZED) QUERCETIN - 4 bottles of 60 veg. caps	68.00	51.00		
01030	**RED YEAST RICE** (Bluebonnet)- 600 mg, 60 veg. caps	15.95	11.96		
00979	**RED YEAST RICE** (Nature's Plus)- 600 mg, 60 veg. caps	22.75	17.06		
00060	**RED YEAST RICE EXTENDED RELEASE** (Nature's Plus)- 30 veg. tablets	20.55	15.41		
00605	**REGIMINT®** - 60 enteric-coated caps	19.95	14.96		
	REGIMINT® - 4 bottles of 60 caps	74.68	56.01		
00448	**REJUVENEX® BODY LOTION** - 6 oz tube	24.00	18.00		
	REJUVENEX® BODY LOTION - 4 tubes	79.20	59.40		
	REJUVENEX® BODY LOTION - 8 tubes	136.00	102.00		
00918	**REJUVENEX® FACTOR** - 1.7 oz Airless pump bottle	65.00	48.75		
	REJUVENEX® FACTOR - 2 bottles	120.00	90.00		
	REJUVENEX® FACTOR - 4 bottles	220.00	165.00		
	REJUVENEX® FACTOR - 8 bottles	399.28	299.46		
01220	**(ULTRA) REJUVENEX®** - 2 oz jar	52.00	39.00		
	(ULTRA) REJUVENEX® - 2 jars	96.00	72.00		
	(ULTRA) REJUVENEX® - 4 jars	176.00	132.00		
	(ULTRA) REJUVENEX® - 8 jars	319.44	239.38		
00676	**(ULTRA) REJUVENIGHT (DREAM CREAM)** - 2 oz jar	39.95	29.96		
	(ULTRA) REJUVENIGHT (DREAM CREAM) - 4 jars	144.00	108.00		
00706	**(ULTRA) REJUVENIGHT w/PROGESTERONE** - 2 oz jar	42.00	31.50		
	(ULTRA) REJUVENIGHT W/PROGESTERONE - 4 jars	152.00	114.00		
01413	**RESVERATROL w/PTEROSTILBENE** - 20 mg, 60 veg. caps	24.00	18.00		
	RESVERATROL w/PTEROSTILBENE - 4 bottles of 60 veg. caps	88.00	66.00		
01410	**RESVERATROL w/PTEROSTILBENE** - 100 mg, 60 veg. caps	36.00	27.00		
	RESVERATROL w/PTEROSTILBENE - 4 bottles of 60 veg. caps	128.00	96.00		
01409	**(OPTIMIZED) RESVERATROL w/PTEROSTILBENE** - 250 mg, 60 veg. caps	46.00	34.50		
	(OPTIMIZED) RESVERATROL w/PTEROSTILBENE - 4 bottles of 60 veg. caps	165.32	124.00		
00889	**RHODIOLA EXTRACT** - 250 mg, 60 veg. caps	11.75	8.81		
	RHODIOLA EXTRACT - 4 bottles of 60 veg. caps	42.32	31.74		
00972	**(D) RIBOSE POWDER** - 150 grams of powder	27.50	20.63		
	(D) RIBOSE POWDER - 4 jars of 150 grams	99.00	74.25		
00973	**(D) RIBOSE CAPS** - 120 veg. caps	32.00	24.00		
	(D) RIBOSE CAPS - 4 bottles of 120 veg. caps	115.20	86.40		

SUB-TOTAL OF COLUMN 15

No.		Retail	Member Price	Qty	Total
01208	**(SUPER) R-LIPOIC ACID** - 300 mg, 60 veg. caps	$49.00	$36.75		
	(SUPER) R-LIPOIC ACID - 4 bottles of 60 veg. caps	180.00	135.00		
00070	**RNA CAPSULES** - 500 mg, 100 caps	17.95	13.46		
	RNA CAPSULES - 4 bottles of 100 caps	64.64	48.48		
00143	**RNA POWDER** - 100 grams of powder	24.00	18.00		
	RNA POWDER - 4 bottles of powder	80.00	60.00		
00917	**ROSMARINIC ACID EXTRACT** - 60 veg. caps	38.00	28.50		
	ROSMARINIC ACID EXTRACT - 4 bottles of 60 veg. caps	144.00	108.00		
00139	**RUTIN POWDER** - 100 grams of powder	15.50	11.63		
	RUTIN POWDER - 4 bottles of powder	55.00	41.25		
S					
* 00573	**SAMBU GUARD** - 175 ml	$17.49	$13.99		
00358	**SAME (S-ADENOSYL-METHIONINE)** - 200 mg, 20 enteric coated tablets	18.95	14.21		
	SAME (S-ADENOSYL-METHIONINE) - 8 boxes of 20 enteric coated tablets	132.80	99.60		
00453	**SAME (S-ADENOSYL-METHIONINE)** - 200 mg, 50 enteric coated tablets	45.00	33.75		
	SAME (S-ADENOSYL-METHIONINE) - 4 bottles of 50 enteric coated tablets	156.00	117.00		
00557	**SAME (S-ADENOSYL-METHIONINE)** - 400 mg, 20 enteric coated tablets	35.00	26.25		
	SAME (S-ADENOSYL-METHIONINE) - 6 boxes of 20 enteric coated tablets	168.00	126.00		
01043	**SEA-IODINE™** - 1000 mcg, 60 veg. caps	8.00	6.00		
	SEA-IODINE™ - 4 bottles of 60 veg. caps	28.80	21.60		
00046	**SELENIUM** - 2 oz dropper bottle	9.45	7.09		
	SELENIUM - 4 bottles of 2 oz bottle	36.00	27.00		
00567	**SE-METHYLSELENOCYSTEINE** - 200 mcg, 100 caps	12.00	9.00		
	SE-METHYLSELENOCYSTEINE - 4 bottles of 100 caps	44.00	33.00		
00318	**SERRAFLAZYME** - 100 tablets	18.00	13.50		
	SERRAFLAZYME - 4 bottles of 100 tablets	64.00	48.00		
00339	**SHARK-A CARTILAGE** - 750 mg, 270 caps	68.00	51.00		
	SHARK-A CARTILAGE - 4 bottles of 270 caps	255.00	191.25		
00284	**SHARK LIVER OIL (NORWEGIAN)** - 1000 mg, 30 softgels	18.00	13.50		
	SHARK LIVER OIL (NORWEGIAN) - 4 bottles of 30 softgels	64.00	48.00		
00503	**SILIBININ PLUS** - 90 veg. caps	36.00	27.00		
	SILIBININ PLUS - 4 bottles of 90 veg. caps	128.00	96.00		
00184	**SILYMARIN** - 100 mg, 50 caps	9.25	6.94		
	SILYMARIN - 4 bottles of 50 caps	33.00	24.75		
00702	**(MEGA) SILYMARIN WITH ISOSILYBIN B** - 100 caps	38.00	28.50		
	(MEGA) SILYMARIN WITH ISOSILYBIN B - 4 bottles of 100 caps	136.80	102.60		
00872	**SLIMSTYLES PGX®** - 6.4 oz powder	22.95	17.21		
00961	**SODZYME® W/GLISODIN® AND WOLFBERRY** - 90 veg. caps	28.00	21.00		
	SODZYME® W/GLISODIN® AND WOLFBERRY - 4 bottles of 90 veg. caps	96.00	72.00		
00657	**SOLARSHIELD SUNGLASSES** - 1 pair smoke color	12.99	9.74		
	SOLARSHIELD SUNGLASSES - 2 pair smoke color	23.00	17.25		
00785	**(ULTRA) SOY EXTRACT** - 675 mg, 600 caps	349.00	261.75		
	(ULTRA) SOY EXTRACT - 4 bottles of 600 caps	1260.00	945.00		
00304	**SOY POWER POWDER** - 300 grams of powder	31.50	23.63		
	SOY POWER POWDER - 4 bottles of powder	114.00	85.50		
00286	**SOY PROTEIN POWDER** (concentrated soy protein) - 16 oz of powder	12.00	9.00		
	SOY PROTEIN POWDER - 4 bottles of powder	42.50	31.87		
00432	**STEVIA EXTRACT** - 100 packets, 1 gram each	9.95	7.46		
	STEVIA EXTRACT - 4 boxes of 100 packets	36.00	27.00		
00351	**ST. JOHN'S WORT EXTRACT** - 300 mg, 60 caps	10.98	8.24		
	ST. JOHN'S WORT EXTRACT - 4 bottles of 60 caps	40.00	30.00		
00327	**ST. JOHN'S WORT EXTRACT (PLANETARY)** - 600 mg, 60 tablets	24.95	18.71		
	ST. JOHN'S WORT EXTRACT (PLANETARY) - 4 bottles of 60 tablets	85.00	63.75		
00971	**SUN PROTECTION SPRAY W/BETA GLUCAN** - SPF30 - 6 oz bottle	14.95	11.21		
	SUN PROTECTION SPRAY W/BETA GLUCAN - SPF30 - 4 bottles, 6 oz	54.00	40.50		

SUB-TOTAL OF COLUMN 16

LIFE EXTENSION MEMBERS RECEIVE 25% OFF THE RETAIL PRICE OF ALL PRODUCTS

*** These products are not 25% off retail price.**

FEBRUARY 2010

DEDUCT AN ADDITIONAL 10% ON ALL PRODUCTS DURING SUPER SALE

Buyers Club Order Form

SUPER SALE SAVINGS ON ALL PRODUCTS
To order call: 1-954-766-8433 or 1-800-544-4440

No.		Retail	Member Price	Qty	Total
00747	**(OVERXCAST POLARIZED) SUNGLASSES** - gray color, large	$27.00	$20.25		
	(OVERXCAST POLARIZED) SUNGLASSES - 2 pairs, gray color	42.00	31.50		
00748	**(OVERXCAST POLARIZED) SUNGLASSES** - gray color, medium	27.00	20.25		
	(OVERXCAST POLARIZED) SUNGLASSES - 2 pairs, gray color	42.00	31.50		
00758	**SUPER ABSORBABLE SOY ISOFLAVONES** - 60 caps	28.00	21.00		
	SUPER ABSORBABLE SOY ISOFLAVONES - 4 bottles of 60 caps	100.00	75.00		
01408	**SUPER SAW PALMETTO/NETTLE ROOT W/BETA-SITOSTEROL** 60 softgels	28.00	21.00		
	SUPER SAW PALMETTO/NETTLE ROOT w/BETA-SITOSTEROL 4 bottles of 60 softgels	104.00	78.00		
	SUPER SAW PALMETTO/NETTLE ROOT w/BETA-SITOSTEROL One-year supply	288.00	216.00		
01407	**SUPER SAW PALMETTO W/BETA-SITOSTEROL** - 30 softgels	15.00	11.25		
	SUPER SAW PALMETTO W/BETA-SITOSTEROL - 12 bottles of 30 softgels	144.00	108.00		
00578	**SUPER SELENIUM COMPLEX** - 200 mcg, 100 caps	12.00	9.00		
	SUPER SELENIUM COMPLEX - 4 bottles of 100 caps	40.00	30.00		
	SUPER SELENIUM COMPLEX - 12 bottles of 100 caps	108.00	81.00		
00674	**SYTRINOL™** - 60 softgels	32.00	24.00		
	SYTRINOL™ - 4 bottles of 60 softgels	112.00	84.00		
	T				
	TAL•SHI™ COSMETICS • For information please call 1-800-544-4440 or visit www.lifeextension.com				
00199	**TAURINE CAPSULES** - 1000 mg, 50 caps	$8.95	$6.71		
	TAURINE CAPSULES - 4 bottles of 50 caps	32.00	24.00		
00133	**TAURINE POWDER** - 300 grams, powder	20.00	15.00		
	TAURINE POWDER - 4 bottles of powder	67.52	50.64		
01304	**THEAFLAVIN STANDARDIZED EXTRACT** - 30 veg. caps	18.00	13.50		
	THEAFLAVIN STANDARDIZED EXTRACT - 4 bottles of 30 veg. caps	64.00	48.00		
00555	**(L) THEANINE** - 100 mg, 60 caps	24.00	18.00		
	(L) THEANINE - 4 bottles of 60 caps	82.00	61.50		
01038	**THERALAC** - 30 caps	44.95	33.71		
00224	**THYMIC IMMUNE FACTORS** - 100 caps	18.00	13.50		
	THYMIC IMMUNE FACTORS - 4 bottles of 100 caps	56.00	42.00		
00668	**(METABOLIC ADVANTAGE) THYROID FORMULA** - 100 caps	17.95	13.46		
00349	**TMG** - 50 grams of powder	14.00	10.50		
	TMG - 4 bottles of powder	44.00	33.00		
00359	**TMG TABLETS** - 500 mg, 180 tablets	18.00	13.50		
	TMG TABLETS - 4 bottles of 180 tablets	62.00	46.50		
00366	**TOCOTRIENOLS** - 50 mg, 60 softgel caps	39.95	29.96		
	TOCOTRIENOLS - 4 bottles of 60 softgel caps	144.00	108.00		
00781	**TOCOTRIENOLS WITH SESAME LIGNANS** - 60 softgels	38.00	28.50		
	TOCOTRIENOLS WITH SESAME LIGNANS - 4 bottles of 60 softgels	144.00	108.00		
01400	**(SUPER-ABSORBABLE) TOCOTRIENOLS** - 60 softgels	30.00	22.50		
	(SUPER-ABSORBABLE) TOCOTRIENOLS - 4 bottles of 60 softgels	112.00	84.00		
01274	**TOTAL SUN PROTECTION CREAM W/BETAGLUCANS** - SPF 30, 4 oz Tube **& PHOTO-AGING RECOVERY COMPLEX**	28.00	21.00		
	TOTAL SUN PROTECTION CREAM W/BETAGLUCANS - 4–4 oz Tubes **& PHOTO-AGING RECOVERY COMPLEX**	100.80	75.60		
01468	**TRIPLE ACTION CRUCIFEROUS VEGETABLE EXTRACT**- 60 veg. caps	24.00	18.00		
	TRIPLE ACTION CRUCIFEROUS VEGETABLE EXTRACT-4 bot 60 veg. caps	88.00	66.00		
01469	**TRIPLE ACTION CRUCIFEROUS VEGETABLE EXTRACT w/RESVERATROL** -60 veg. caps	32.00	24.00		
	TRIPLE ACTION CRUCIFEROUS VEGETABLE EXTRACT w/RESVERATROL - 4 bottles	118.40	88.80		
01046	**TRIPLE ACTION UNDER EYE REJUVENATOR** - 0.5 oz pump	24.00	18.00		
	TRIPLE ACTION UNDER EYE REJUVENATOR - 4 boxes	88.00	66.00		
00866	**TRYPTOPURE® L-TRYPTOPHAN** - 500 mg, 90 veg. caps	38.00	28.50		
	TRYPTOPURE® L-TRYPTOPHAN - 4 bottles of 90 veg. caps	136.00	102.00		
	SUB-TOTAL OF COLUMN 17				

No.		Retail	Member Price	Qty	Total
01202	**(OPTIMIZED) TRYPTOPURE® PLUS** - 90 veg. caps	$40.00	$30.00		
	(OPTIMIZED) TRYPTOPURE® PLUS - 4 bottles of 90 veg. caps	144.00	108.00		
00036	**L-TYROSINE POWDER** - 100 grams of powder	22.50	16.88		
	L-TYROSINE POWDER - 4 bottles of powder	80.00	60.00		
00326	**L-TYROSINE TABLETS** - 500 mg, 100 tablets	16.98	12.74		
	L-TYROSINE TABLETS - 4 bottles of 100 tablets	62.52	46.89		
00035	**L-TYROSINE PLUS POWDER** - 100 grams of powder	28.00	21.00		
	L-TYROSINE PLUS POWDER - 4 bottles of powder	98.00	73.50		
	U				
* 00310	**UDO'S CHOICE®** - 17 oz liquid (omega fatty acids)	$27.49	$21.99		
* 00311	**UDO'S CHOICE®** - 1000 mg, 180 caps	33.79	27.03		
* 00322	**UDO'S CHOICE® WHOLESOME FAST FOOD** - 1 lb bottle	27.49	21.99		
	V				
00213	**VANADYL SULFATE** - 7.5 mg, 100 tablets	$15.00	$11.25		
	VANADYL SULFATE - 4 bottles of 100 tablets	50.00	37.50		
01018	**VASCULAR PROTECT** - 120 vegetarian caps	48.00	36.00		
	VASCULAR PROTECT - 4 bottles of 120 vegetarian caps	180.00	135.00		
00252	**VELVET DEER ANTLER** - 250 mg, 30 caps	36.00	27.00		
	VELVET DEER ANTLER - 4 bottles of 30 caps	136.00	102.00		
00408	**VENOTONE** - 60 caps	18.95	14.21		
	VENOTONE - 4 bottles of 60 caps	64.00	48.00		
00427	**VINPOCETINE** - 5 mg, 100 tablets	18.00	13.50		
	VINPOCETINE - 4 bottles of 100 tablets	56.00	42.00		
01033	**VISION OPTIMIZER** - 90 caps	29.95	22.46		
01098	**VITAL GREENS MIX** - 319.5 grams of powder	48.00	36.00		
	VITAL GREENS MIX - 4 bottles of powder	176.00	132.00		
00091	**VITAMIN B1 CAPS** - 500 mg, 100 caps	15.50	11.63		
	VITAMIN B1 CAPS - 4 bottles of 100 caps	56.00	42.00		
00090	**VITAMIN B1 POWDER** - 100 grams of powder (Thiamin)	18.00	13.50		
	VITAMIN B1 POWDER - 4 bottles of powder	67.52	50.64		
00093	**VITAMIN B2 CAPS** - 100 mg, 100 caps	9.50	7.13		
	VITAMIN B2 CAPS - 4 bottles of 100 caps	35.00	26.25		
00092	**VITAMIN B2 POWDER** - 30 grams of powder	10.50	7.88		
	VITAMIN B2 POWDER - 4 bottles of powder	37.52	28.14		
00096	**VITAMIN B3 (NIACIN)** - 1000 mg, 100 caps	12.75	9.56		
	VITAMIN B3 (NIACIN) - 4 bottles of 100 caps	48.00	36.00		
00372	**VITAMIN B3 (NIACIN)** - 500 mg, 100 caps	7.65	5.74		
	VITAMIN B3 (NIACIN) - 4 bottles of 100 caps	26.60	19.95		
00094	**VITAMIN B3 POWDER** - 300 grams of powder	15.00	11.25		
	VITAMIN B3 POWDER - 4 bottles of powder	56.00	42.00		
00098	**VITAMIN B5 CAPS** - 500 mg, 100 caps (Pantothenic Acid)	10.50	7.88		
	VITAMIN B5 CAPS - 4 bottles of 100 caps	37.52	28.14		
00097	**VITAMIN B5 POWDER** - 100 grams of powder	15.25	11.44		
	VITAMIN B5 POWDER - 4 bottles of powder	55.00	41.25		
00556	**VITAMIN B6 CAPS** - 250 mg, 100 caps	12.50	9.38		
	VITAMIN B6 CAPS - 4 bottles of 100 caps	44.00	33.00		
00099	**VITAMIN B6 POWDER** - 100 grams of powder	24.50	18.38		
	VITAMIN B6 POWDER - 4 bottles of powder	88.00	66.00		
00361	**VITAMIN B12 TABLETS** - 500 mcg, 100 dissolve-in-mouth tablets	8.75	6.56		
	VITAMIN B12 TABLETS - 4 bottles of 100 dissolve-in-mouth tablets	29.00	21.75		
00144	**VITAMIN B12 POWDER** - 100 grams of powder	12.00	9.00		
	VITAMIN B12 POWDER - 4 bottles of powder	42.52	31.89		
00927	**VITAMIN C WITH DIHYDROQUERCETIN** - 1000 mg, 250 tablets	25.50	19.13		
	VITAMIN C WITH DIHYDROQUERCETIN - 4 bottles of 250 tablets	93.00	69.75		
	SUB-TOTAL OF COLUMN 18				

*** These products are not 25% off retail price.**

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00084	**(BUFFERED) VITAMIN C POWDER** - 454.6 grams of powder	$23.95	$17.96		
	(BUFFERED) VITAMIN C POWDER - 4 bottles of powder	88.00	66.00		
00864	**VITAMIN D** - 2000 IU, 1 fl oz	28.00	21.00		
	VITAMIN D - 4 bottles of 1 fl oz	100.00	75.00		
00251	**VITAMIN D3 CAPS** - 1000 IU, 250 caps	12.50	9.38		
	VITAMIN D3 CAPS - 4 bottles of 250 caps	45.00	33.75		
00713	**VITAMIN D3 CAPS** - 5000 IU, 60 caps	11.00	8.25		
	VITAMIN D3 CAPS - 4 bottles of 60 caps	39.60	29.70		
01418	**VITAMIN D3 CAPS** - 7000 IU, 60 caps	14.00	10.50		
	VITAMIN D3 CAPS - 4 bottles of 60 caps	50.40	37.80		
01371	**VITAMIN D3 w/SEA-IODINE** - 1000 IU, 250 veg. caps	22.00	16.50		
	VITAMIN D3 w/SEA-IODINE - 4 bottles of 250 veg. caps	80.00	60.00		
01372	**VITAMIN D3 w/SEA-IODINE** - 5000 IU, 60 veg. caps	14.00	10.50		
	VITAMIN D3 w/SEA-IODINE - 4 bottles of 60 veg. caps	50.00	37.50		
00063	**VITAMIN E CAPS (NATURAL)** - 400 IU, 100 caps	18.75	14.06		
	VITAMIN E CAPS (NATURAL) - 4 bottles of 100 caps	69.00	51.75		
	VITAMIN E CAPS (NATURAL) - 10 bottles of 100 caps	150.00	112.50		
00062	**VITAMIN E POWDER (SYNTHETIC)** - 300 grams of powder	28.95	21.71		
	VITAMIN E POWDER (SYNTHETIC) - 4 bottles of powder	100.00	75.00		
01225	**(LOW-DOSE) VITAMIN K2 (MK-7)** - 90 softgels	18.00	13.50		
	(LOW-DOSE) VITAMIN K2 (MK-7) - 4 bottles of 90 softgels	64.00	48.00		
	Z				
00986	**(SUPER) ZEAXANTHIN W/LUTEIN & MESO-ZEAXANTHIN** - 60 softgels	$22.00	$16.50		
	(SUPER) ZEAXANTHIN W/LUTEIN & MESO-ZEAXANTHIN - 4 bottles	79.20	59.40		
01286	**(SUPER) ZEAXANTHIN W/LUTEIN & MESO-ZEAXANTHIN** - 60 softgels **PLUS ASTAXANTHIN**	42.00	31.50		
	(SUPER) ZEAXANTHIN W/LUTEIN & MESO-ZEAXANTHIN PLUS ASTAXANTHIN - 4 bottles of 60 softgels	152.00	114.00		
00152	**ZINC GLUCONATE POWDER** - 100 grams of powder	8.00	6.00		
	ZINC GLUCONATE POWDER - 4 bottles of powder	27.50	20.62		
00061	**ZINC LOZENGES WITH VITAMIN C** - 75 lozenges	9.50	7.13		
	ZINC LOZENGES WITH VITAMIN C - 4 bottles of 75 lozenges	27.00	20.25		
01051	**ZYFLAMEND** - 120 softgels	60.95	45.71		
01029	**ZYFLAMEND EASYCAPS** - 180 caps	31.95	23.96		
	SUB-TOTAL OF COLUMN 19				

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As a member of the Life Extension Foundation®, you have the opportunity to participate in a great scientific endeavor. We are the world's premier organization dedicated to stopping and reversing aging.

Our 29-year track record shows that we have been five to ten years ahead of conventional and alternative medicine in making new life-saving therapies available to our members.

When you join the Life Extension Foundation®, we update you on the latest published medical research by sending you FREE books. Our most impressive publication is the 1,666-page *Disease Prevention and Treatment* protocol book that contains novel therapies to treat 133 common diseases of aging. *Disease Prevention and Treatment* is the only book that combines conventional and alternative therapies in order to implement a treatment regimen for fighting the multiple processes involved in degenerative disease.

Each month, Life Extension Foundation® members receive a magazine packed with the latest medical findings from around the world. Members also can call a toll-free phone number to talk to our knowledgeable health advisors about their health issues.

If your number one priority is good health and a long life, please join our not-for-profit organization.

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I want to contribute to your research efforts to extend the healthy human life span. Enclosed is my first year's membership donation of $75 to join the most elite group of longevity enthusiasts in the world. (Canadians add $7, all others outside the U.S. add $35) Item code: MEMB1. Call for multiple year membership rates.

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Brand New!

RESVERATROL PLUS PTEROSTILBENE IN ONE FORMULA!

In **2003**, the **Life Extension Foundation**® introduced a purified **resveratrol** supplement that was later documented to favorably alter some of the changes in gene expression that cause us to age.

On **January 25, 2009**, CBS News ***60 Minutes*** featured an in-depth report on the multiple benefits that resveratrol may confer in slowing and even reversing certain aspects of aging.

What differentiates ***Life Extension***®***'s*** resveratrol: It provides 100% **standardized *trans*-resveratrol** *plus* a full spectrum of natural compounds from the grape that have demonstrated remarkable biological properties. Most products currently on the market contain varying quantities of ***trans***- and ***cis***-*resveratrol*, and fail to provide enough *trans*-resveratrol for optimal results. In addition, **Life Extension** has added **pterostilbene**, which researchers have found works in a ***synergistic*** fashion with resveratrol to activate one's "longevity genes."

Research funded by Life Extension has shown that a combination of low-dose (20 mg) **resveratrol** plus **grapeseed extract** induced many of the favorable **gene expression** changes seen in **calorie-restricted** animals. Other studies, however, have indicated that ***higher doses*** may be needed to obtain all of resveratrol's positive benefits including:

- **Improved Insulin Sensitivity**
- **Enhanced Mitochondrial Function**
- **Reduced Expression of Inflammatory Factors**
- **Protection Against the Toxic Effects of a High-Fat Diet**

CBS News and its affiliates are not connected with Life Extension® in any way, and do not endorse or sponsor its products.

Life Extension has meticulously evaluated published studies on **resveratrol** and **pterostilbene** to establish doses people might need to take to duplicate these remarkable laboratory findings. The results of Life Extension's analysis yield a wide range of potentially effective doses of resveratrol and pterostilbene.

Highest Potency Resveratrol

The resveratrol *potency* you choose may be based on your current state of health and/or your desire to personally reach the upper limits of a healthy human life span. Life Extension offers a wide range of standardized ***trans*-resveratrol** potencies in combination with **pterostilbene** (which also favorably alters gene expression), **quercetin**, and other grape phytonutrients.

Optimized Resveratrol with Pterostilbene and the new **Calorie Restriction Mimetic Formula** provide the highest dosage of ***trans***-resveratrol as well as a broad array of grape polyphenols, quercetin and **pterostilbene**.

All these Resveratrol Products are fortified with Pterostilbene!

Item #01413

Resveratrol with Pterostilbene

Provides **20 mg** of *trans*-resveratrol plus 120 mg of quercetin to facilitate resveratrol absorption. Pterostilbene content (125 mcg) equivalent to over **5 cups** of **blueberries**. Recommended dosage is 1 capsule daily with or without food. Each bottle contains 60 vegetarian capsules.

Retail Price: $24

FOUR-BOTTLE SUPER SALE MEMBER PRICE:

>> $14.85 PER BOTTLE

(See each product description for amount of pterostilbene.)

Item #01411

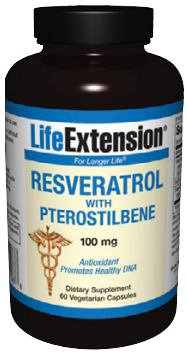
GrapeSeed Extract with Resveratrol & Pterostilbene

Provides **20 mg** of *trans*-resveratrol plus 100 mg of grapeseed extract. Pterostilbene content (125 mcg) equivalent to over **5 cups** of **blueberries**. Recommended dosage is 1 capsule daily with or without food. Each bottle contains 60 vegetarian capsules.

Retail Price: $36

FOUR-BOTTLE SUPER SALE MEMBER PRICE:

>> $22.95 PER BOTTLE



Item #01410

Resveratrol with Pterostilbene

Provides **100 mg** of *trans*-resveratrol plus 120 mg of quercetin to facilitate resveratrol absorption. Pterostilbene content (250 mcg) equivalent to over **10 cups** of **blueberries**. Recommended dosage is 1 capsule daily with or without food. Each bottle contains 60 vegetarian capsules.

Retail Price: $36

FOUR-BOTTLE SUPER SALE MEMBER PRICE:

>> $21.60 PER BOTTLE

Item #01409

Optimized Resveratrol with Pterostilbene

Provides in one capsule **250 mg** of *trans*-resveratrol, 85 mg of grape plant polyphenols plus quercetin. Pterostilbene content (500 mcg) equivalent to over **20 cups** of **blueberries**. Recommended dosage is 1 capsule daily with or without food. Each bottle contains 60 vegetarian capsules.

Retail Price: $46

FOUR-BOTTLE SUPER SALE MEMBER PRICE:

>> $27.90 PER BOTTLE

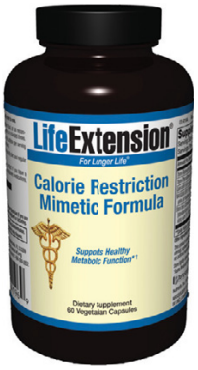
The Most Potent RESVERATROL-PTEROSTILBENE Formula

Among the most promising of **caloric restriction mimics** and enhancers are **resveratrol**, **pterostilbene**, **quercetin**, and **grape seed polyphenols**, along with **black tea extract**. These nutrients have been shown to generate many of the same effects in the body as caloric restriction, without significant dietary modification.[1-8] In particular, they help "mimic" caloric restriction's favorable impact on **genes** that influence the aging process.[1-8]

A new **Calorie Restriction Mimetic Formula** includes **resveratrol**, higher levels of **pterostilbene** and **quercetin** plus, **grape seed polyphenols**, and **black tea extract** to provide even broader-spectrum gene expression support in one nutritional compound.

Two capsules of **Calorie Restriction Mimetic Formula** provide:

***Trans*-Resveratrol**	**250 mg**
***Trans*-Pterostilbene**	**3 mg**
Quercetin	**150 mg**
Black tea extract	**300 mg**
Grape seed polyphenols	**50 mg**



Item #01419

Each bottle contains 60 vegetarian capsules of the new **Calorie Restriction Mimetic Formula**.

Retail Price: $36

FOUR-BOTTLE SUPER SALE MEMBER PRICE:

>> $22.28 PER BOTTLE

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To order these **Resveratrol products** or the new **Calorie Restriction Mimetic Formula**, call **1-800-544-4440** or visit **www.LifeExtension.com**

High Performance Supplement Supports Thicker, Healthier

Hair

The adult scalp **loses** about **100 hairs every day**. Starting at the age of 40, hair follicles *shrink*, causing hair to grow back *thinner,* or worse, *not at all*. This *devastating* hair loss is experienced by *half* the population. While the prevention and treatment is complex, using a supplement with *tocotrienols* can be pivotal in addressing the various physiological mechanisms that lead to thinning hair.[1]

Super Absorbable Tocotrienols combats the underlying causes of hair loss, supporting otherwise healthy hair follicles that genetic disposition, advancing age, high concentrations of DHT (the male hormone dihydrotestosterone), and sebum build-up may cause to weaken, degrade or shrink. **Super Absorbable Tocotrienols**, a natural, orally administered, bio-enhanced tocotrienol complex, can be taken to support *youthful hair* **thickness** and **growth**.

The Most Absorbable Tocotrienol Supplement Available Today

Through a revolutionary, patented delivery system, **Super Absorbable Tocotrienols** ensures optimal absorption[2-7] and efficiently delivers the benefits of a unique proprietary complex of *phytonutrients* (squalene, phytosterols and trace amounts of mixed carotene) naturally extracted together with tocotrienols to support youthful hair growth, hair health and hair density. In a study involving 30 volunteers who took tocotrienol supplements for eight months, nearly all the subjects showed significant improvement in hair thickness and density.[1]

Those who want to obtain the benefits of this *potent* hair formula can order **Life Extension®'s Super Absorbable Tocotrienols**. The recommended dosage is one softgel taken two times daily with food. The retail price for a bottle of **Super Absorbable Tocotrienols** containing 60 softgels is $30, but if a member buys four bottles during **Super Sale**, the price is reduced to **$18.90 per bottle**.

To order **Super Absorbable Tocotrienols**,
call **1-800-544-4440**
or visit **www.LifeExtension.com**

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1. Randomized Clinical Trial of Tocotrienols Supplementation vs. Placebo for Androgenetic Alopecia. Professor Yuen Kah Hay, B., School of Pharmaceutical Sciences, Universiti Sains, Malaysia. Submitted for publication 2009.
2. *Antioxid Redox Signal*. 2006 May-Jun;8(5-6):1059-68.
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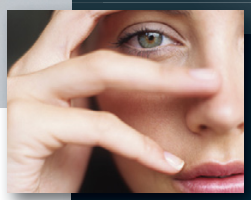
PROTECT EYE HEALTH AND FIGHT TIRED EYES



By absorbing blue-light, the **macula** protects delicate **photo-receptor cells** in the retina from light damage. The *density* of your macular pigment (composed of lutein, zeaxanthin, and meso-zeaxanthin) is essential to proper vision. Unfortunately, this density declines naturally over time. Some aging people also lose their ability to convert lutein into **meso-zeaxanthin** inside their macula.

Eating lots of lutein- and zeaxanthin-containing vegetables can help maintain the structural integrity of their macula. However, since **meso-zeaxanthin** is not part of the typical diet, it cannot be replaced except in supplement form.

Super Zeaxanthin with Lutein & Meso-zeaxanthin Plus Astaxanthin gives you therapeutic doses of **all three carotenoids** to help protect your precious eyesight plus a special ingredient that's scientifically proven to help fight tired eyes.

Each softgel of new **Super Zeaxanthin with Lutein & Meso-zeaxanthin Plus Astaxanthin** provides:

OptiLut® and Lutein Plus® with MZ® ..... **38 mg**
Marigold *(Tagetes erecta)* Extract (flower)
[free lutein equivalent 10 mg]

Zeaxanthin & Meso-zeaxanthin blend ..... **3.75 mg**
(micronized zeaxanthin, OptiLut® Marigold and Lutein Plus® with MZ® Marigold Extract)

Natural Astaxanthin ..... **6 mg**
(from *Haematococcus pluvialis* algae extract)

Fight Tired Eyes With Astaxanthin

If you're one of the more than 72 million people in America who use a computer daily at work,[1] you're probably familiar with eye fatigue. Staring at a fixed-distance object such as a computer screen for a long period of time can cause the muscles that focus your eyes (called the ciliary body) to tire or go into spasm. This can result in physical symptoms such as head discomfort, sensitivity to glare, tiredness, soreness, dryness, and blurry vision.

Item #01286

Super Zeaxanthin with Lutein & Meso-zeaxanthin Plus Astaxanthin contains a potent dose of **astaxanthin**, a carotenoid found in a red algae called *Haematococcus pluvialis*. Studies show that taking **astaxanthin** with other carotenoids protects against free-radical induced DNA damage, repairs UVA-irradiated cells, and inhibits inflammatory cell infiltration.[2-5] Astaxanthin also helps support vascular health within the eye and improves visual acuity.[4] Its fat-soluble nature offers protection to sensitive cells inside the eye.[6]

With its special combination of ingredients that targets eyestrain and protects visual acuity, **Super Zeaxanthin with Lutein & Meso-zeaxanthin Plus Astaxanthin** is truly an exciting breakthrough in eye care.

The retail price for a bottle containing 60 softgels of **Super Zeaxanthin with Lutein & Meso-zeaxanthin Plus Astaxanthin** is $42. If a member buys four bottles during **Super Sale**, the price is reduced to just **$25.65** per bottle.

To order Super Zeaxanthin with Lutein & Meso-zeaxanthin Plus Astaxanthin, call 1-800-544-4440 or visit www.LifeExtension.com

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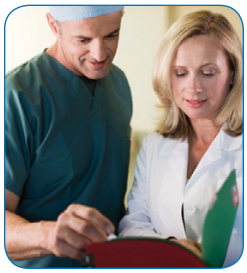
WHAT'S INSIDE

LifeExtension® Magazine

BLOCK *ABSORPTION* OF KILLER CARBOHYDRATES

An estimated **60 million** Americans are now pre-diabetic, the result of an impaired ability to process carbohydrates. A novel set of carbohydrate **enzyme-inhibitors** helps bring glucose levels into balance and improves age-related markers of health.

NEUTRALIZE *LETHAL* EFFECTS OF EXCESS CALORIE INGESTION



The most effective way to prevent disease and extend life span is to reduce calorie intake. In this ground-breaking issue of ***Life Extension Magazine***® three methods are described to achieve the benefits of **calorie restriction** without having to endure strict dietary deprivation.

REVERSE MITOCHONDRIAL DYSFUNCTION

Age-related deterioration of the ***mitochondria*** in our cells is associated with an array of deadly conditions, ranging from senility to diabetes and heart failure. Cellular energizers have been identified that can help arrest and *reverse* progressive mitochondrial damage.

CUTTING-EDGE PROSTATE PROTECTION

Half of all men will experience debilitating **prostate** disorders sometime in their life. An advanced extraction technology now delivers even higher concentrations of the active ingredients in saw palmetto. Discover the nine natural compounds that provide maximum prostate support.

PLUS

Visit us at **www.LifeExtension.com**

HIGH HOMOCYSTEINE ASSOCIATED WITH SENILITY IN WOMEN
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VITAMIN E BEATS DRUG TREATMENT FOR LIVER DISEASE
GREEN TEA HELPS PROTECT AGAINST ORAL CANCER