

WHY TOPICAL SUNSCREENS FAIL SO MANY PEOPLE

LifeExtension®

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July 2010

Achieve Benefits of *Calorie Restriction* without Hunger

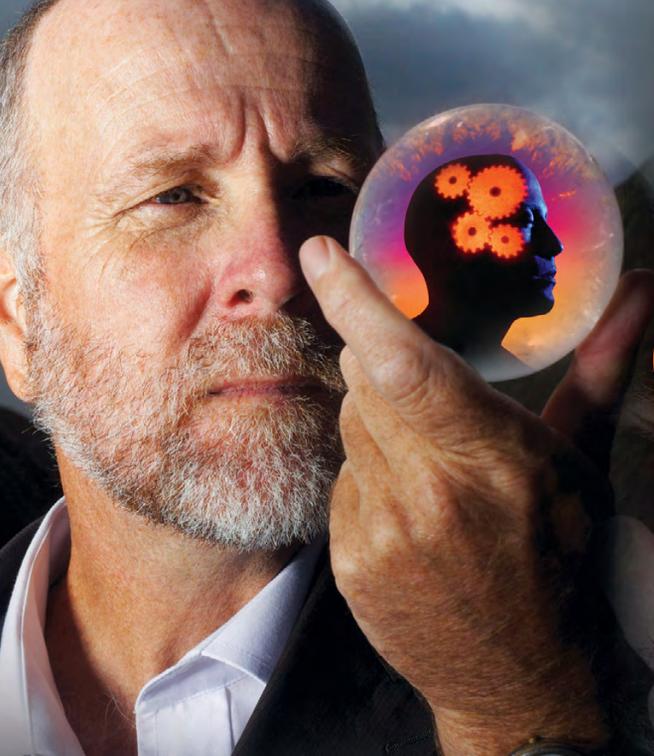
**FDA Finally Admits
Deadly Effects of
Acetaminophen**

**Halt the Stealth
Progression of
Parkinson's
Disease**

**Advanced
Treatment of
Hematological
Cancers**

**PLUS—
Vitamin K Lowers Lymphoma Risk
Lack of Sleep Leads to Overeating
Omega-3 Improves Diabetic Kidneys**





FIGHT BACK AGAINST BRAIN AGING WITH COGNITEX



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, the price per bottle is reduced to just **\$49.95** and **\$48**, 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)	100 mg
[Sharp-PS® GOLD Conjugated Phosphatidylserine-DHA]	
Pregnenolone	50 mg
Vinpocetine	20 mg
Phospholipid-Grape Seed Extract	150 mg
Wild Blueberry Extract	150 mg
<i>(Vaccinium angustifolium)</i>	
Sensoril® Ashwagandha Extract	125 mg
<i>(Withania somnifera)</i>	
Uridine-5'-Monophosphate (disodium)	50 mg
Proprietary NeuroProtection Complex Blend	125 mg
Perluxan® Hops Extract (<i>Humulus lupulus</i>)	
Ginger (<i>Zingiber officinale</i>) Extract	
Rosemary (<i>Rosmarinus officinalis</i>) Extract	



Item #00921



Item #00922

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

Contains fish (wild herring, blue whiting), soybeans, and rice.

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



REPORTS



24 ACTIVATE YOUR SKIN'S INTERNAL SUNBLOCK

Despite the rapid rise in sunscreen use, rates of melanoma—the most lethal form of skin cancer—have more than doubled over the past two decades. New research substantiates the ability of natural dietary interventions to trigger your skin cells' ultraviolet ray defenses internally.



48 LIFE EXTENSION FUNDS GROUNDBREAKING CANCER TREATMENT STUDY

When news broke about a colony of mice that were 100% resistant to cancer, there was an explosion of excitement throughout the scientific community. These mice were immune to cancer because they had been bred with ultra-powerful white blood cells called **super-charged granulocytes**. In response, the **Life Extension Foundation®** provided funding to launch the first human study using this cancer treatment at the South Florida Bone Marrow Stem Cell Transplant Institute.



56 THE FACTS ABOUT SOY

Is soy safe? A vocal minority has fueled a “controversy” of misinformation that surrounds this nutritional powerhouse. A review of the published scientific literature uncovers a wealth of studies validating soy's broad-spectrum benefits, from cardiovascular disease and cancer prevention, to helping to maintain bone density.



70 INNOVATIONS IN PARKINSON'S PREVENTION

While there is no known cure for Parkinson's disease, the single most important risk factor is well known: aging. Fortunately, advances in our understanding of how Parkinson's unfolds has yielded safe, low-cost interventions to halt its stealth progress, including natural compounds many **Life Extension®** members already take.



34 ON THE COVER

CUTTING-EDGE PROTECTION FROM EXCESS CALORIES

A startling Mayo Clinic analysis confirms that millions of normal-weight people are ingesting more calories than their bodies can utilize, significantly jeopardizing their health and longevity. The good news is a unique class of plant extracts simulates some of the effects of reduced caloric intake at the *genetic* level. Find out how the latest of these advanced **calorie restriction mimetics** enhances the benefits of **resveratrol**.

DEPARTMENTS



7 AS WE SEE IT—Deadly FDA Neglect

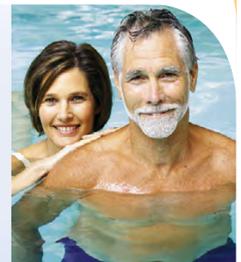
Decades after **Life Extension®** exposed the lethal toxicity of acetaminophen, the mounting death toll caused by this pain-relieving drug finally forced the FDA to act. While the FDA's feeble actions will reduce the carnage somewhat, the acute and long-term effects of acetaminophen will continue to land thousands of Americans in emergency rooms and morgues each year. Conventional physicians meanwhile *ignore* non-toxic interventions to help relieve chronic pain.

IN THE NEWS 17

Lower rheumatoid arthritis rates linked to vitamin D; supplement use associated with lower risk of cervical dysplasia in HPV-positive women; calcium associated with reduced breast cancer risk; lack of sleep may lead to overeating.

PROFILE: LAIRD HAMILTON 87

Legendary big wave surfer Laird Hamilton tackles the ocean by keeping his body in peak condition. His secret? An active lifestyle, natural foods, and a number of vital supplements, including vitamin C and powdered greens.





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PROTECT EYE HEALTH AND FIGHT TIRED EYES

By absorbing blue-light, **carotenoids** protect delicate **photo-receptor cells** in the retina's macula 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.

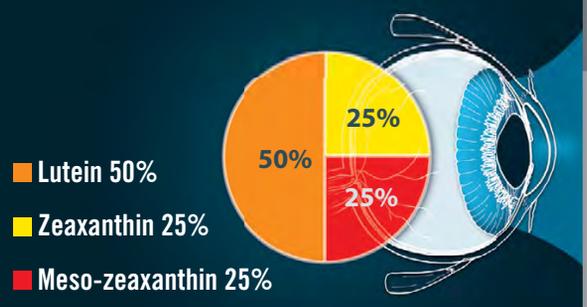
Fight Tired Eyes With Astaxanthin

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.

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, the price is reduced to just **\$28.50** per bottle.



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

OptiLut® and Lutein Plus® with MZ®	38 mg
<i>Marigold (Tagetes erecta) Extract (flower)</i> [free lutein equivalent 10 mg]	
Zeaxanthin & Meso-zeaxanthin blend	3.75 mg
<i>(micronized zeaxanthin, OptiLut® Marigold and Lutein Plus® with MZ® Marigold Extract)</i>	
Natural Astaxanthin	6 mg
<i>(from Haematococcus pluvialis algae extract)</i>	



Item #01286

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

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3. *J Photochem Photobiol B*. 2006 Dec 1;85(3):205-15.
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Frank Eichorn, MD, is a Urologist specializing in prostate cancer since 10 years. He has a private practice in Bad Reichenhall, Germany and is prostate cancer consultant at the Urologische Klinik Castringius, Planegg, Munich. In his integrative approach to prostate cancer he is working together with an international network of experts to improve treatment outcome for prostate cancer patients with special focus on natural and translational medicine.



Deborah F. Harding, MD is founder of the Harding Anti-Aging Center. She is triple board-certified in Internal Medicine, Sleep Disorder Medicine, and Anti-Aging Medicine. She also earned the Cenegenics certification in Age Management Medicine. She is a faculty member of the new University of Central Florida Medical School.



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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.



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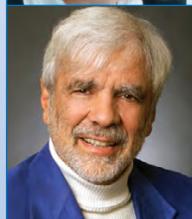
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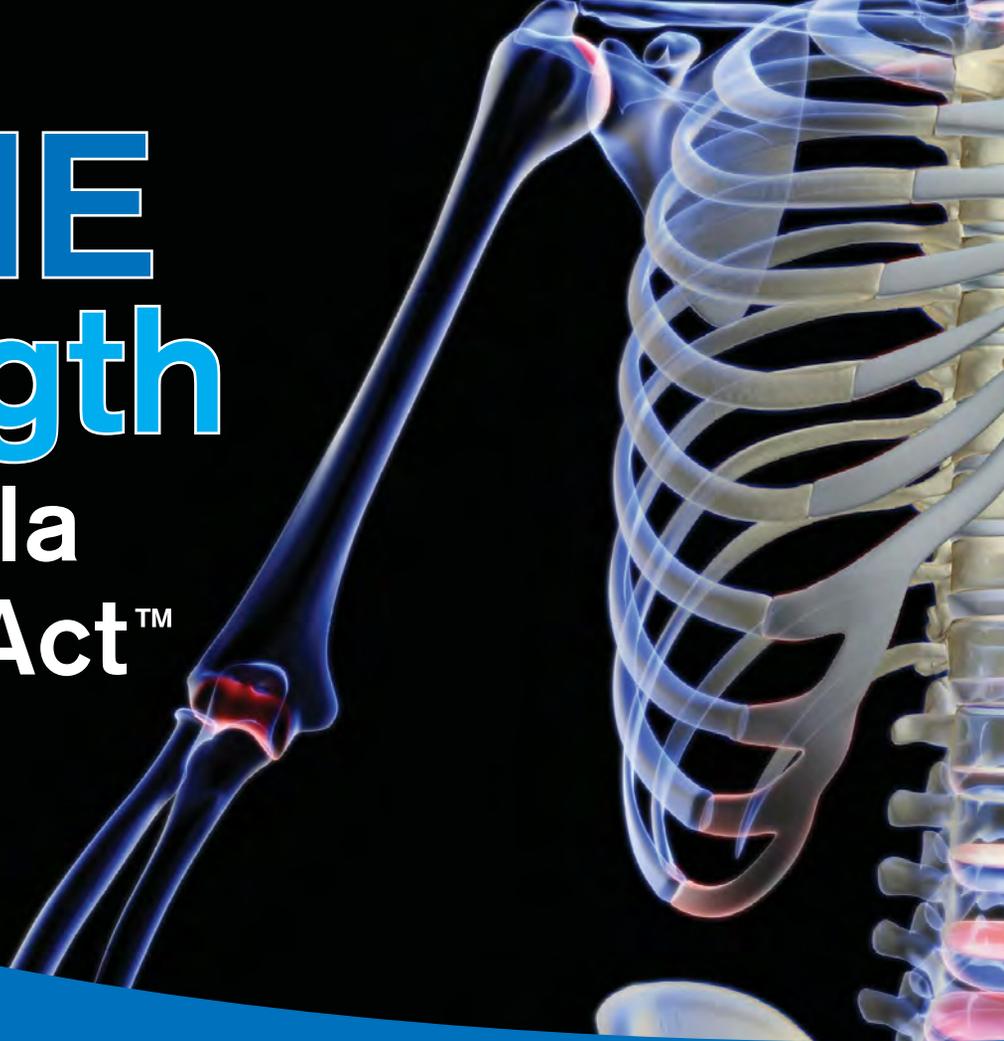


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BONE Strength Formula With KoAct™



The use of diets high in **collagen** to improve bone health dates back to ancient cultures. That's why Life Extension® formulates an exciting patented formulation of chelated **calcium** and **collagen** called **KoAct™** to help maintain **bone strength** and **mineral density**.* KoAct™ allows for greater flexibility ... so your bones can absorb energy, **reducing the risk of age-related injuries**. Additional plant extracts are included for their bone-protective minerals and polyphenols.

Four capsules of **Bone Strength Formula with KoAct™** provide:

Collagen (from 3000 mg KoAct™ Calcium Collagen Chelate).....	2,700 mg
Calcium (from 3000 mg KoAct™ Calcium Collagen Chelate).....	300 mg
Vitamin D3 (as cholecalciferol).....	1,000 IU
Magnesium (as magnesium citrate).....	100 mg
Silica [from standardized Bamboo (<i>Bambusa vulgaris</i>) extract (stem)].....	5 mg
Dried Plum (<i>Prunus domestica</i>) extract (fruit).....	100 mg
[standardized to 50% polyphenols (50 mg)]	
Boron (calcium fructoborate as patented FruiteX B® OsteoBoron®)	3 mg

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

Contains corn.

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



Item #01211

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

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

Deadly FDA Neglect



BY WILLIAM FALOON



You might be surprised to know that the leading cause of **acute liver failure** in the United States is not *alcohol* abuse, nor *viral* hepatitis.

The number one reason Americans suffer acute **liver** failure is a **drug** the **FDA** has allowed to be sold for decades *after* its lethal toxicities were known.¹

This drug is available over-the-counter and in prescription combinations. In many cases, those ingesting this **toxic drug** (under various brand names) don't even know they are taking it.

The FDA has bent over backwards to protect **billions of dollars of profits** earned annually by pharmaceutical companies who sell this deadly drug.

As the body count mounted in **2009**, the FDA was forced to mandate a lower dosage and remove it from prescription combinations that were particularly lethal.²

The FDA's feeble actions to appease critics are too little and far too late. The reduced dose will spare some lives, but this toxic drug will still inflict a considerable death toll. The fact that this carnage has gone on for decades confirms the FDA's blatant failure to protect the public.

AS WE SEE IT

What Called My Attention to This Drug-Induced Bloodbath?

Back in the early 1980s, I was having one of my all-night brainstorming sessions with scientists who routinely think “outside the box” when it comes to medical issues. One of these scientists enlightened me to the mechanism by which the pain reliever *acetaminophen* causes liver damage.

When *acetaminophen* is ingested, a rapid depletion of *glutathione* in the liver occurs.^{3,4} The result of glutathione depletion is *free radical* destruction of liver cells.⁵⁻⁹ The scientists I spoke with suggested that **Life Extension**® make a combination product of *acetaminophen* and *N-acetyl cysteine* (a glutathione-enhancing amino acid). According to these scientists, this would probably eliminate virtually all acetaminophen-related acute deaths.¹⁰⁻¹⁴

Since *acetaminophen* and *N-acetyl cysteine* are both sold over-the-counter, you might think that making a “safer” acetaminophen formula would not be difficult.

There is one problem. The FDA prohibits combining existing drugs and dietary supplements unless a **New Drug Application** is filed, tens of millions of dollars of clinical studies are performed, and the FDA agrees to allow the combination to be sold. The whole process can cost upwards of \$100 million and take a decade to complete.

So by bureaucratic edict, a safer form of acetaminophen never made it to market.

FDA Throws Us in Jail!

In the late 1980s, the FDA began raiding our facilities for the purposes of gathering evidence to put

me and others in jail. According to the FDA, our products were not approved by the agency and were therefore inherently unsafe.

We fought back by showing that not only were the products we recommended safe and effective, but that many of the drugs the FDA claimed to be safe were really poisons!

We were indicted in the early 1990s under the charges that our product recommendations violated the FDA’s coveted regulatory structure, which included having *approved* labeling so consumers and their doctors could safely use these products.

My Weekly Radio Show

In response to those who believed the FDA’s fabricated attacks against us, I set up my own radio show on one of the largest stations in South Florida.

Almost every week I would identify a drug the FDA approved

as “safe” and reveal just how dangerous it really was. I would then discuss ways to make these drugs safer, such as taking **coenzyme Q10** if a **statin** cholesterol-lowering drug were needed. It was known way back then that statin drugs interfere with CoQ10 synthesis in the body.¹⁵ By taking supplemental CoQ10, one could replenish their body with this life-sustaining nutrient that is depleted by statin drugs and aging.

In recalling my conversations with forward-thinking scientists in the early 1980s, I researched *acetaminophen* and was astounded by the multiple toxic effects this drug inflicts on the liver,¹⁶⁻²⁰ kidney,²¹⁻²⁶ and other organs.²⁷⁻²⁹

When I went to the pharmacy to check out the labeling, there were no warnings required by the FDA to indicate this drug’s lethal side effects.

So here I was facing decades in prison for recommending products that did not have FDA-approved labeling, yet the FDA did





not require labeling for one of the most dangerous drugs on the market to warn consumers about its lethal effects.

These egregious disparities were not lost on prosecutors, who eventually dismissed the FDA's flawed indictments against us.

Just How Dangerous Is Acetaminophen?

Each year, acetaminophen poisoning results in 100,000 calls to poison control centers, 56,000 emergency room visits, 26,000 hospitalizations, and more than 450 deaths from liver failure.³⁰

Acetaminophen's deadly effects extend beyond the liver. Regular users of acetaminophen may double their risk of *kidney cancer*, a disease that kills 12,000 Americans each year.^{25,26,31-33} The incidence of kidney cancer in the US has risen **126%** since the 1950s,³⁴ a jump that may be tied to the growing use of drugs containing acetaminophen and its metabolites.

Because acetaminophen generates damaging *free radicals* throughout the body, it may very well increase the risk of many age-related diseases. In fact, scientists can consistently induce *cataracts* in the eyes of laboratory animals by giving them *acetaminophen*.³⁵ They consider acetaminophen a "catarotogenic agent." Interestingly, if antioxidants are provided to the

animals, the cataract-inducing effects³⁶⁻⁴⁰ of acetaminophen are often completely neutralized.^{41,42}

Just imagine how the FDA would respond if a *dietary supplement* caused even a few of these adverse reactions. The FDA would immediately shut down the company and probably pursue criminal charges against the owners. Not so with acetaminophen. Since it is "approved" by the FDA, little has been done up till now to restrict consumer access to it.

FDA Finally Does Something about Acetaminophen

In **2009**, an outside advisory panel recommended that the FDA ban narcotics containing acetaminophen (like Vicodin® and Percocet®).⁴³ The panel also recommended that the amount of acetaminophen contained in OTC products be reduced. The FDA is not required to follow the recommendations of its advisory committees, although the agency typically does.

This prompted the FDA to finally announce sweeping changes designed to protect Americans against the liver damage inflicted by over-the-counter and prescription acetaminophen drugs.^{44,45} Some acetaminophen compounds are being banned, while others will have reduced dosages. No

mention was made about combining *N-acetyl cysteine* to protect against glutathione depletion and subsequent free radical-induced liver damage. There was also no mention about the other health problems (like kidney failure and kidney cancer) potentially caused by acetaminophen.

The most popular acetaminophen-containing drug is **Tylenol®**, and its makers wasted no time in running full page ads proclaiming that Tylenol® remains the "safest" pain relieving drug on the market. There appears to be no limit to how low pharmaceutical companies will sink to protect their immoral profits. To imply that acetaminophen is "safe" is a scientific contradiction.

Acetaminophen and the FDA: A Sordid History

The **2009** announcement about *acetaminophen's* deadly effects is not the first time an *independent group* of doctors recommended the FDA do something about this drug.

In **2002**, another independent advisory committee commissioned by the FDA urged that warnings be put on the labels of acetaminophen drugs.^{46,47} The FDA said no to its own scientific advisors. Instead, the FDA budgeted a mere twenty thousand dollars^{29,30} to develop material that it hoped would be run in magazines and distributed by pharmacy chains for free!⁴⁸ This is the bureaucratic equivalent of doing nothing.

By **2004**, the FDA capitulated to scientific pressure and mandated a minimal warning be placed on acetaminophen labels, which did nothing to stop the slaughter caused by this deadly drug.⁴⁹

AS WE SEE IT

FDA Should Have Known About Kidney Toxicity

The painkiller drug **phenacetin** was taken off the market long ago because of its severe kidney toxicity and increased risk of bladder cancer.⁵⁰⁻⁵⁴ **Acetaminophen** is the major metabolite of this banned drug, meaning that **phenacetin's** destructive properties may have been caused by its breakdown to **acetaminophen** in the body.

So while phenacetin was withdrawn because too many peoples' kidneys were shutting down, the FDA had no problem letting its major metabolite (acetaminophen) be freely marketed without any consumer warning whatsoever.

If *acetaminophen* is responsible for even a small percentage of the overall annual kidney cancer cases, the FDA's failure to restrict this one drug may have killed tens of thousands of Americans from this one disease alone!

As history has taught us, when a highly profitable drug turns out to be a lethal killer, the FDA's first response is to safeguard pharmaceutical economic interests. Consumer protection is a secondary issue.

It Is "Impossible" for the FDA to Protect the Public

Life Extension[®] warned about the lethal dangers of acetaminophen-containing drugs almost 20 years ago. The FDA did nothing to alert the public. Even when national news broadcasts reported on real life victims who died from acetaminophen, the agency responsible for protecting Americans against unsafe drugs stood still. Why was that?

As most of you know, pharmaceutical interests exert tremendous



control over the FDA. Employees of the FDA are offered lucrative pharmaceutical jobs upon retirement and are heavily lobbied by drug companies while working at the agency.

Members of Congress charged with overseeing the FDA are also inundated by pharmaceutical lobbyists and pharmaceutical campaign contributions. When the safety of a drug as popular as *acetaminophen* is challenged, you can be certain pharmaceutical companies will pull out all the stops to make sure the government does not ban it.

Even when the FDA proposes stricter labeling on drugs like acetaminophen, pharmaceutical lobbyists besiege the FDA and Congress to make these warnings so benign that the public largely ignores them.

The degree of *political* influence involved in FDA decision-making results in it being impossible for the agency to use *scientific* evidence to protect Americans against unsafe drugs.

As I described earlier in this article, those not beholden to the pharmaceutical cartel learned of acetaminophen's lethal effects decades ago—and even came up with preventive antidotes (such as *N-acetyl cysteine*). Yet to this day, acetaminophen continues to poison huge segments of the

American public who still are unaware of how toxic this drug really is.

All Pain-Suppressing Medications Are Toxic

To relieve chronic pain, toxic doses of all approved analgesics are often required. That argument has been used by acetaminophen makers to state that if patients have to switch to other FDA-approved drugs (such as ibuprofen or Celebrex[®]), then users will die from other causes, such as stomach bleeding and heart attacks.

We don't disagree that all FDA-approved pain relievers are dangerous and only minimally effective. We question why conventional doctors liberally prescribe toxic analgesics without seeking to alleviate the underlying cause of the pain.

In some cases, chiropractic care can result in functional and symptom relief of chronic pain. Certain dietary supplements such as *gamma linolenic acid* (from borage oil),⁵⁵ high-dose *fish oil*,^{56,57} MSM (methylsulphonylmethane)^{58,59} and *Korean Angelica* extract^{60,61} have demonstrated remarkable pain relieving effects in peer-reviewed published scientific studies.

Last year, we introduced an **Infrared Heating Pad** that delivers a steady stream of soothing warmth deep into the tissues. We sold **ten times** more of these Infrared pads than we expected, and have received remarkable testimonials back from users. The number of these Infrared pads we shipped out indicates how many people suffer from **chronic pain**. Unfortunately, the FDA decided to ban the importation of this product until the company completes lengthy and burdensome registration requirements, so many of those suffering chronic pain will have no choice but resorting to toxic drugs the FDA allows to be freely sold. We will let you know if and when these infrared heating pads ever become available.

Free Market More Effective than FDA

For more than a century, consumers have been misled into believing the FDA protected them against dangerous drugs. The harsh reality is that the FDA functions to protect the economic interests of the pharmaceutical establishment, while trampling on the rights of Americans to access safer and more effective natural therapies.

As a member of the **Life Extension Foundation®**, you learn about deadly drugs (such as Vioxx® and Premarin®) long before the FDA takes action to warn the public. Our 30-year track record documents that we are far more proficient in warning consumers about dangerous medications than the taxpayer-funded and drug company-corrupted FDA.

For longer life,



William Faloon

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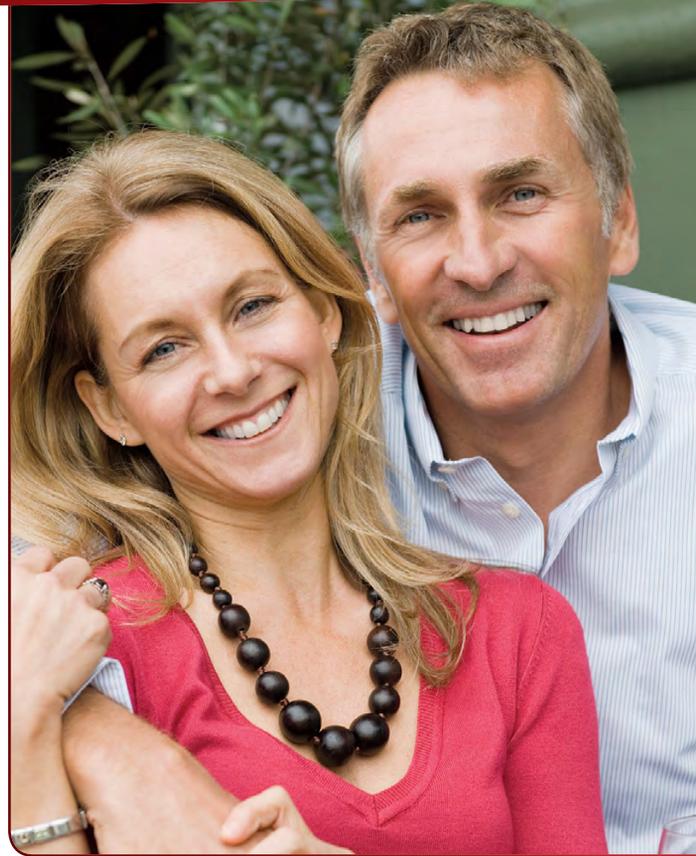
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Aging is Characterized by Inflammation, Glycation, and Mitochondrial Decay

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, the price is reduced to **\$58.50** 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	150 mg (microencapsulated)
Benfotiamine	150 mg
Pyridoxal 5'-Phosphate	100 mg
Luteolin.....	8 mg



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Contains soybeans.

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

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.

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™**) 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 1-800-544-4440 or visit www.LifeExtension.com

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** properties⁷ (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

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.

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.

Contains soybeans, tree nuts, yeast, and corn.

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

Phase 3™ L-Arabinose and chromium complex550 mg
(supplying 475 mg L-Arabinose and
100 mcg Chromium in a food bound state)
Green Tea Phytosome (decaffeinated) extract 150 mg
Phase 2® *Phaseolus vulgaris* white kidney bean extract 445 mg
InSea™ seaweed extract125 mg
Irvingia gabonensis extract 150 mg

Summary of Human Studies with 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® <i>Irvingia Gabonensis</i> Extract	102 overweight subjects randomized to either 150 mg of <i>Irvingia</i> 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.

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 \$64. If a member buys four bottles, the price is reduced to **\$45 per bottle**.

InSea™ is a trademark of *innoVactiv, Inc.*
Integra-Lean® *Irvingia* is protected by U.S. Patent No. 7,537,790. Other patents pending. *Phase 2®* and *Phase 3™* are used under license.

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



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,

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
L-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

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.

- **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.

Contains soybeans, peanuts, and sesame.

- **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, the price is reduced to just **\$28.50** per bottle.

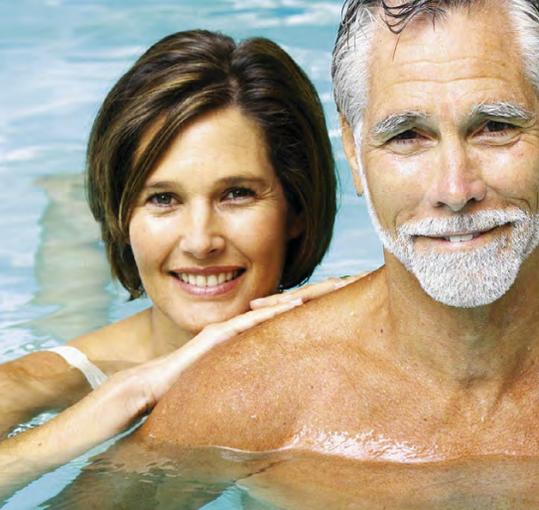
The **Super Booster** saves consumers **huge dollars** by combining a wide variety of costly nutrients into one daily softgel. If you add up the price of the individual ingredients contained in the **Super Booster**, you would spend **two to three times more** for this potency if taken separately.



Item #01380

To order
Super Booster, call
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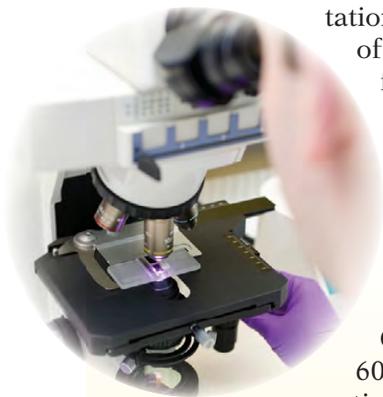
Caution: If you are taking anti-coagulant or anti-platelet medications, or have a bleeding disorder, consult your healthcare provider before taking this product. Individuals with in-born errors of copper metabolism (e.g. Wilson's disease) should avoid daily, chronic use of this product. Lyc-O-Mato® is a registered trademark of LycoRed Natural Products Limited.



IN THE NEWS

Mayo Study Links Increased Vitamin K Intake to Lower Non-Hodgkin Lymphoma Risk

In one of several noteworthy presentations at the 101st Annual Meeting of the American Association for Cancer Research, it was reported that a higher intake of vitamin K is associated with a reduced risk of non-Hodgkin lymphoma.*



James Cerhan, MD, PhD and his colleagues at the Mayo Comprehensive Cancer Center compared 603 non-Hodgkin lymphoma patients to 1,007 men and women

who did not have cancer. The investigators found an association between a lower risk of non-Hodgkin lymphoma and increased consumption of vitamin K. For those whose intake of the vitamin was among the top 25% of participants at over 108 micrograms per day, the risk of the disease was 45% lower compared with those whose intake was among the lowest fourth at less than 39 micrograms per day.

“As with all new findings, this will need to be replicated in other studies,” Dr. Cerhan noted.

Editor’s note: This study adds evidence to previous research that associates vitamin K intake with cancer protection.

—Dayna Dye

* American Association for Cancer Research 101st Annual Meeting 2010.

Vitamin, Calcium Supplementation Associated with Reduced Breast Cancer Risk

The American Association for Cancer Research 101st Annual Meeting 2010 was the site of a presentation concerning the finding of a protective effect of vitamin and calcium supplements against breast cancer.*

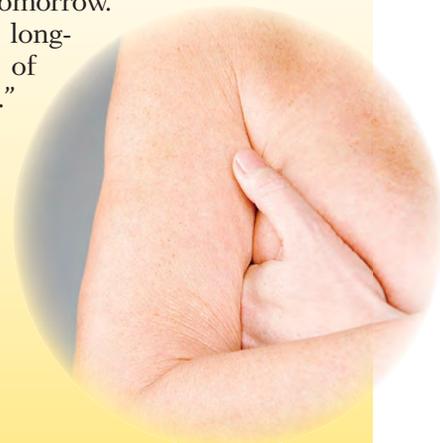
Jaime Matta, PhD of the Ponce School of Medicine in Puerto Rico and his colleagues compared 268 Puerto Rican women with breast cancer to 457 healthy control subjects. Participants who consumed vitamin supplements were found to have a 30% lower risk of breast cancer compared to those who did not have a history of vitamin supplementation, and those who consumed calcium supplements had a 40% lower risk.

“It is not an immediate effect,” Dr. Matta noted. “You don’t take a vitamin today and your breast cancer risk is reduced tomorrow. However, we did see a long-term effect in terms of breast cancer reduction.”

Editor’s note: Since cancer takes years to develop, long-term protective measures are essential.

—Dayna Dye

* American Association for Cancer Research 101st Annual Meeting 2010.





Supplement Use Associated with Lower Risk of Cervical Dysplasia in HPV-positive Women

The *International Journal of Gynecologic Cancer* reports the finding of Korean researchers of a lower risk of cervical intraepithelial neoplasia (also known as cervical dysplasia) among human papilloma virus-positive women who consumed vitamin supplements. Human papilloma virus has been identified as the agent responsible for cervical cancer, for which cervical dysplasia is a precursor. The condition is detected by a pap smear and graded according to stage as 1, 2, or 3.*

Ninety women with cervical dysplasia 1 and 72 with cervical dysplasia 2/3 were compared with 166 control subjects. Women who used multivitamins had a 79% lower risk of cervical dysplasia 2/3 than those who did not use them. Similar reductions in cervical dysplasia 2/3 risk were observed for vitamins A, C, and E, and calcium use.

“Larger studies are needed for confirmation of these findings before the results can be generalized to a broader population,” the authors write.

Editor’s note: The researchers involved in this study previously uncovered a link between a lower risk of cervical cancer and increased antioxidant intake from diet and supplements.

—Dayna Dye

* *Int J Gynecol Cancer*. 2010 Apr;20(3):398-403.

Lower Rheumatoid Arthritis Rates Linked to Vitamin D

A study published online in the journal *Environmental Health Perspectives* suggest that increased vitamin D from sunlight exposure could have a protective effect against rheumatoid arthritis, a chronic autoimmune disease with unknown causes.*

For the current investigation, Boston University School of Public Health associate professor Verónica Vieira, MS, DSc and her colleagues analyzed data from the Nurses’ Health Study, which enrolled female nurses in the United States beginning in 1976. Four hundred sixty-one participants diagnosed with rheumatoid arthritis between 1988 and 2002 were compared to 9,220 control subjects who did not have the disease. The researchers examined the association between rheumatoid arthritis risk and residential address.

The team found a higher risk of rheumatoid arthritis among women living in the northeastern United States, suggesting that less sunlight exposure, and, consequently, decreased vitamin D production, could be a factor in the development of the disease.

Editor’s note: The authors remark that an association with northern latitudes has also been observed for multiple sclerosis, Crohn’s disease, and other autoimmune diseases.

—Dayna Dye

* *Environ Health Perspect*. 2010 March 25.

Lack of Sleep May Lead to Overeating

A recent study published in the *American Journal of Clinical Nutrition* suggests that “sleep restriction could be one of the environmental factors that contribute to the obesity epidemic.”* In particular, the study discovered that normal-weight young men ate several hundred extra calories a day when they’d gotten just four hours of sleep compared to when they slept for a full eight hours.

The study, led by Dr. Laurent Brondel of the European Centre for Taste Sciences in Dijon, France, followed the sleep, eating, and energy expenditure in 12 healthy young men across two 48-hour periods. Two days served as a control period, where the men in the study adhered to their normal routines but wrote down their sleep, eating, and activities in a diary. During the second 48-hour period, the men went to bed at 12 am and woke up at 8 am on one day, and on the other day they went to bed at 2 am and woke up at 6 am. There were no eating restrictions during each period.

Researchers found that after the short night sleep, the men consumed 22% more calories, on average, than when they were allowed to sleep eight hours. This accounted for nearly 560 extra calories a day per person.

Editor’s note: Getting adequate sleep may be beneficial when trying to follow a low-calorie or calorie restricted diet.

—Jon Finkel

* *Am J Clin Nutr* 2010 Mar 31.





Low Vitamin B6 May Increase Parkinson's Disease Risk

A study published by the *British Journal of Nutrition* states that inadequate levels of vitamin B6 may increase the risk of Parkinson's disease by 50%.* According to the American Parkinson's Disease Association, over two million Americans currently suffer from PD. While searching for optimal vitamin levels to combat Parkinson's, researchers from Japan conducted a hospital-based case-control study involving 249 people with Parkinson's disease and 368 people without any neurodegenerative condition.

In order to quantify the intake of B vitamins, the subjects filled out a self-administered, semi-quantitative, diet questionnaire. They observed that there was no link between riboflavin, folate, and vitamin B12, but low intake of vitamin B6 was linked to an increased risk of the disease, independent of other factors.

These findings agree with a previous study done by researchers from the Erasmus Medical Center in Rotterdam, England, that also linked increased B6 intake with Parkinson's disease risk.

Editor's note: These low levels of B6 intake would only occur in those who do not take vitamin supplements.

—Jon Finkel

* *Br J Nutr.* 2010 Mar 26:1-8.

Reduced Vitamin K Intake Associated with Greater Cancer Mortality

An article published in the *American Journal of Clinical Nutrition* reports the finding of German researchers of an association between reduced vitamin K2 intake and an increased risk of dying from cancer.*

The researchers analyzed data from 24,340 participants in the EPIC-Heidelberg study who were aged 35 to 64 upon enrollment between 1994 and 1998. Participants were followed through 2008. Over the follow up period, there were 1,755 cases of cancer, including 458 fatalities. While those whose intake of vitamin K2 was among the top 25% of participants had a 14% reduction in cancer incidence compared with those whose intake was among the lowest fourth, the group with the highest intake experienced a 28% lower risk of dying of the disease. The reduction occurred mainly in men.

"This study showed inverse associations between the dietary intake of menaquinones and both overall cancer incidence and mortality," the authors conclude.

Editor's note: The authors explain the difference in vitamin K2's effects on men and women by the fact that the men in the study had cancer sites (prostate, lung) that were likelier to be influenced by vitamin K2.

—Dayna Dye

* *Am J Clin Nutr.* 2010 Mar 24.

Intentional Weight Loss Helps, Not Harms, Seniors

The outcome of a study appearing in the *Journal of Gerontology: Medical Sciences* contradicts concerns raised by previous studies that deliberate weight loss among older individuals could increase the risk of death.*

Researchers at Wake Forest University Baptist Medical Center analyzed data from 318 arthritic men and women over the age of 60 who participated in a randomized trial that evaluated the effects of dieting and/or exercise on physical function. Those assigned to a weight loss diet lost an average of 10.5 pounds over 18.5 months.

Within 8 years after the trial's conclusion, 15 deaths occurred among those assigned to weight loss diet interventions, compared with 30 in the remainder of the participants. "This study puts to rest a lot of unfounded concerns about how to address the epidemic of obesity among our older adults," coauthor Stephen B. Kritchevsky, PhD concluded.

Editor's note: The current findings are in agreement with numerous animal studies that have associated increased life span with calorie restriction.

—Dayna Dye

* *J Gerontol Med Sci.* 2010 Jan 15.





Brisk Walking Reduces Stroke Risk

According to a WebMD Health News article, women who walk two or more hours per week or who walk at a brisk pace can significantly reduce their risk of suffering a stroke.* Based on a study of the exercising habits of 39,315 female health professionals whose average age was 54, the findings showed that women who walked at a pace of 3 miles per hour or faster had a 37% lower risk of suffering any type of stroke. Women who walked two or more hours a week had a 30% reduced risk of any type of stroke.

Jacob R. Sattelmair, MSc, of the Harvard School of Public Health was interviewed for the feature and concluded that “physical activity, including regular walking, is an important modifiable behavior for stroke prevention. Physical activity is essential to promoting cardiovascular health and reducing risk of cardiovascular disease, and walking is one way of achieving physical activity.”

—Jon Finkel

* Available at: www.webmd.com/stroke/news/20100406/brisk-walking-reduces-stroke-risk. Accessed April, 19 2010.

Increased Omega-3 Intake May Improve Kidney Health for Diabetics

A research team headed by Dr. Amanda Adler from the MRC Epidemiology Unit at the Institute of Metabolic Science in Cambridge (UK), published findings in *Diabetes Care* stating that kidney function was improved in type-1 diabetics with the highest average intake of eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA), compared with people with the lowest intakes of the fatty acids.*

They culled their results from data made available to them in the Diabetes Control and Complications Trial, which involved 1,436 participants who were between the ages of 13 and 39. The researchers measured the excretion of the protein albumin in urine. People who have kidney problems often experience a leakage of the protein albumin from the kidney into the urine. According to the study, people with a higher average intake of omega-3s had albumin excretion levels 22.7 mg per 24 hours lower than people with the lowest average intakes of omega-3s.

—Jon Finkel

* Available at: <http://care.diabetesjournals.org/content/early/2010/03/24/dc09-2245.abstract>. Accessed April 20, 2010.



Green Tea May Strengthen Teeth

A new team of researchers from Japan suspect that antimicrobial molecules contained within green tea helps preserve teeth, as long as you don't add sugar.* An article posted to *discoverynews.com* describes the findings, noting that catechins, found heavily in green tea, may be the protecting component.

Yasushi Koyama, the lead researcher on the project from the Tohoku University Graduate School of Medicine, and his colleagues examined more than 25,000 Japanese men and women between the ages of 40 and 64. They discovered that men who consumed at least one cup of tea a day were 19% less likely to have fewer than 20 teeth than those who did not drink green tea. Women had 13% lower odds.

The researchers concluded that catechins, which have been shown to kill mouth bacteria associated with tooth decay and gum disease, most likely give green tea its dental benefits.

—Jon Finkel

* Available at: <http://news.discovery.com/human/green-tea-teeth-dental.html>. Accessed April 20, 2010.



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Warning to Coumadin® (warfarin) Drug Users

Patients prescribed vitamin K-antagonist anti-coagulant prescription drugs like warfarin should consult their physician before taking vitamin K supplements like Super K and Super Booster. There is evidence, however, that users of drugs like warfarin could benefit from a consistent low dose of supplemental vitamin K. Ask your doctor if you can take a low dose (45 mcg a day) of vitamin K2 in the long-acting MK-7 form for the purpose of stabilizing your INR levels and also protecting your body against long-term vitamin K deficit. Do not initiate any form of vitamin K supplementation without full cooperation of your treating doctor, as your doctor may need to increase your dose of warfarin to compensate for the vitamin K you supplement with. Life Extension provides several forms of low-dose vitamin K for physician consideration.

Humans get most of their vitamin K from green vegetables in the form of **vitamin K1**. The problem is that K1 is tightly bound to plant fiber and only a small fraction *absorbs* into the bloodstream.

Vitamin K2 is absorbed much more efficiently than K1. Scientific studies show K2 provides overwhelmingly superior benefits for the bones, arteries and other tissues.¹⁻⁸

The predominant sources of **K2** in Western diets are organ meats, dairy and egg yolks — foods that health conscious people seek to minimize in their diets. The result is that most people in Western societies are not obtaining *optimal* potencies of vitamin K.

The solution is to use a vitamin K supplement that provides ideal potencies of K1 and the two active forms of K2.

Ideal Forms of Vitamin K2

Over the past four years, two forms of **vitamin K2** have been extensively researched and the findings reveal vastly improved effects compared to **K1**.

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 bio-available to the human body over a sustained 24-hour period and to higher levels (7- to 8-fold) during prolonged intake.⁹

Both **MK-4** and **MK-7** have demonstrated remarkable health benefits when studied in human populations.

The Most Complete Vitamin K Formula

Vitamin K1 is the form found in plants and vegetables and should be part of most people's daily supplement regimen. Even more important is inclusion of the **MK-4** and **MK-7** forms of **vitamin K2**.

Based on new data substantiating the long-acting effects of MK-7, it is now possible to ingest fewer total micrograms of vitamin K but achieve far higher sustained blood levels of this critical nutrient.

Super K formula provides in just one daily softgel:

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

The virtue of this formula is that it provides the precise amount of the long-acting **MK-7 form** of **vitamin K2** that recent human studies have shown provides optimal K2 levels over a 24-hour period. The **MK-4** is included to provide the rapid increase in vitamin K blood levels that may account for its beneficial effects in certain studies.

More Expensive Forms of K2 ... Same Low Price

Super K with Advanced K2 Complex provides all three forms of vitamin K. The retail price for a bottle containing **90 softgels** (three-month supply) is \$26. If a member buys four bottles, the price is reduced to just **\$17.25 per bottle**.

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

Contains tree nuts.

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



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.

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 high concentration of **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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go-3

EPA/DHA

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, the price is reduced to **\$21 per bottle**. If **10 bottles** are purchased, the price per bottle is reduced to only **\$18.68**. *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, the price is reduced to **\$23.25 per bottle**. If **10 bottles** are purchased, the price per bottle is reduced to only **\$21**. *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.**

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

Upgraded Formula!

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

EPA Pure+™ Extract	1400 mg
(eicosapentaenoic acid)	
DHA Pure+™ Extract	1000 mg
(docosahexaenoic acid)	
Olive Fruit Extract	600 mg
[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)]	
Sesame seed lignan extract	20 mg



Item #01482

Item #01484



UNLEASH YOUR SKIN'S INTERNAL DEFENSES

BY RONA CHERRY

Novel Plant Compounds Halt Photoaging

Normally you think of protection from ultraviolet skin aging as something that must take place from *outside* your body, by blocking out solar radiation. But new research reveals that *internal* factors are just as critical for optimal skin protection.

Clinical research shows that upon ingestion, safe and readily-metabolized plant extracts furnish your skin with extraordinary protection from photoaging.¹ They slow the *absorption* of harmful ultraviolet (UV) rays and **blunt** potentially cancer-causing **DNA damage** inflicted by sun-generated free radicals.^{2,3}

Much has been written about how the sun's burning ultraviolet rays harm our health and appearance. Yet despite the warnings, more than **two million**⁴ people in the US will be diagnosed with skin cancer this year alone. Rates of **melanoma**—the most dangerous form of skin cancer—have not only doubled over the past **10-20** years, but continue to rise **3% to 7%** annually.⁵

In one study, novel plant extracts demonstrated an impressive **54%** reduction in activity of collagen-degrading enzymes and an **86%** inhibition of enzymes that break down **hyaluronic acid**—your skin's natural moisturizer!⁶

In this article, you will learn of the mechanisms by which certain phytonutrients can **significantly offset** the ravages of excessive UV exposure that lead to **premature skin aging**. >>



BOLSTERING SKIN DEFENSES

For centuries, natives of Honduras have protected themselves against sunburn, tumors, psoriasis and other skin disorders by ingesting a fern extract known as *Polypodium leucotomos*. An initial report on its effects was published in *Nature* more than 40 years ago⁷ and since then clinical trials have demonstrated that the antioxidant-rich extract bolsters the skin's defenses against damaging UV rays.

A 2004 study¹ by Harvard researchers on **nine** healthy volunteers tested whether *Polypodium leucotomos* would protect fair- to light-skinned subjects from sun damage. Some were given oral doses of the fern extract (7.5 mg/kg body weight daily, or about 525 mg for a 154-pound person), some were not, and then all were exposed to different doses of artificial solar radiation. After 24 hours, the researchers took biopsy samples to determine the amount of **skin redness due to inflammation (erythema)**.

The results showed that those who had taken the extract had experienced less UV-induced damage, including “significantly” fewer **sunburn cells**, indicators of light-induced tissue injury. The extract inhibited the infiltration of **mast cells**, which release chemicals into the body that cause inflammation, redness, and itching. It also had a protective effect on radiation-sensitive **Langerhans cells**, key cancer-fighting immune cells found in the outer layer of skin (the **epidermis**).

The Harvard researchers concluded that *Polypodium leucotomos* is an “effective systemic **chemoprotective** agent.”¹

Another study,⁸ conducted in 2007 by scientists in Milan, Italy, found that *Polypodium leucotomos* extract was beneficial to those individuals with a high sensitivity to the sun often referred to as “**sun poisoning**.” Recruited for the trial were **26** patients who suffered from **polymorphic light reaction**, a condition in which skin rashes can develop after fairly limited sun exposure. Two others had **solar urticaria**, a rare form of hives caused by exposure to UV light. All subjects had previously not responded to the usual available treatments.

Twenty-five of the patients met the criteria for evaluation and were exposed to sunlight while taking an oral dose of **480 mg** of *Polypodium leucotomos* a day. Their responses were compared to their previous experiences to sunlight exposure without the benefit of the *Polypodium leucotomos* extracts.

The researchers reported that the subjects responded well to the fern extract, with **80%** of the patients reporting benefit from its use. The “**photoprotective activity of Polypodium leucotomos was significant**,” wrote researchers. In addition, the fern extract was well-tolerated and did not cause any unwanted side effects.

ROLE IN SKIN AGING

A recent study found that *Polypodium leucotomos* could potentially become an important anti-aging ingredient.⁹

Researchers investigated the effect of the fern extract, which is rich in polyphenols, on **human dermal fibroblasts**. The scientists studied the impact of *Polypodium leucotomos* on UV radiated fibroblasts and those that were non-irradiated in vitro. The researchers were particularly interested in the expression of enzymes and **transforming growth factor-beta (TGF-beta)** that are known to affect the **extracellular matrix proteins** such as elastin and collagen, responsible for keeping the skin supple and firm.

In the study, they looked at how *Polypodium leucotomos* affects **matrix metalloproteinases (MMPs)**—enzymes that break down collagen and that are stimulated by exposure to UV light.

The study found that *Polypodium leucotomos* may play a role in preventing skin aging by directly inhibiting MMP expression. At the same time, the fern extract demonstrated its protective effects by stimulating certain types of collagen. Interestingly, *Polypodium leucotomos* stimulated collagen production and it also decreased its degradation by the MMPs.

WHY FERN EXTRACT IS EFFECTIVE

Over the years, researchers have studied whether **antioxidants** such as oral **tocopherol** (vitamin E), **ascorbate** (vitamin C), and **carotenoids** are effective in protecting against the sun's ultraviolet rays.^{10,11} Studies have showed varying results, some more promising than others. However, when any photoprotective effect was observed, it usually was after prolonged administration of the antioxidants.¹² So why is *Polypodium leucotomos* more effective than other antioxidants?

In an article published this April,³ Dr. Salvador Gonzalez, a renowned physician-researcher in dermatology and photo-medicine at Memorial Sloan-Kettering Cancer Center, reviewed several proposed mechanisms by which the natural ingredient appears to work:

- *Polypodium leucotomos* extract contains a high percentage of **phenolics** such as **caffeic acid** and **ferulic acid**, antioxidants which protect the skin against erythema. The fern extract inhibits the formation of **free radicals** and the oxidative damage that results from UV radiation.³
- It protects cells and prevents damage to DNA. A recent study of **10** healthy volunteers found that *Polypodium leucotomos* showed a trend toward preventing the increase in levels of the **common deletion** (a photoaging marker), as UVA radiation was increased.¹³
- Fern extracts exhibit powerful **anti-inflammatory** effects in skin tissue.³
- It also prevents UV rays from suppressing **immune function**, which is important in preventing harmful cellular changes that could lead to the development of skin cancer.¹

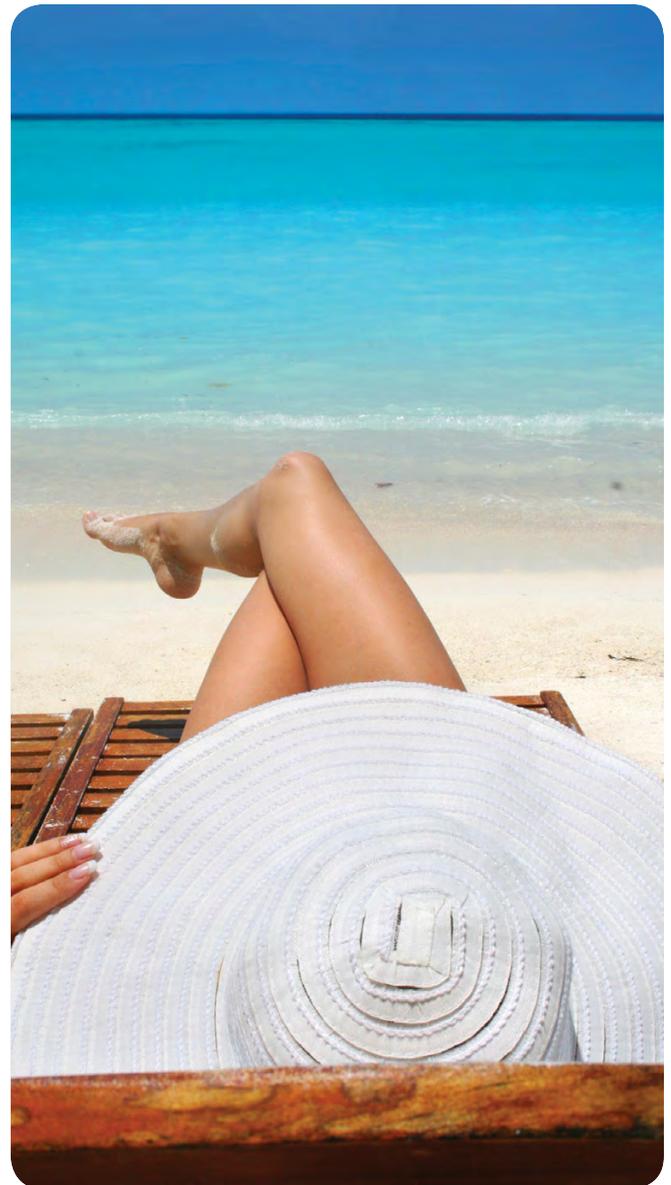
Polypodium leucotomos not only has short-term effects such as inhibiting **reactive oxygen species** (free radicals) production and DNA damage, but the short-term effects "**translate into long-term prevention of photoaging and photocarcinogenesis,**" Dr. Gonzalez said.³

He noted that since *Polypodium leucotomos* can be administered orally it could decrease the incidence of phototoxicity in individuals with difficult-to-treat skin disorders such as **psoriasis** and **vitiligo** (loss of pigment in patches of the skin) who are undergoing UV treatments.³

NEW COMBINATIONS OFFER MORE PROTECTION

Interestingly, combinations of various antioxidants have been found to have **synergistic** effects, yielding formulations that are more beneficial than any of the individual compounds used alone.¹⁴ Studies have shown that when several antioxidants are combined in one skin care product, the benefits to skin may be greater, and the photoprotective effect increases.^{15,16}

For instance, it's well known that sun exposure is not the only cause of accelerated skin aging. Stress can also damage our skin, the body's largest organ, as well as various other body parts.¹⁷ Reducing stress may therefore be significant in improving overall skin condition.



In a double-blind, randomized, placebo-controlled, in vitro study, a proprietary preparation containing **Indian gooseberry** (*Phyllanthus emblica*) and **ashwagandha** extracts demonstrated a **54%** inhibition of enzymes that break down collagen, and an **86%** inhibition of those that break down **hyaluronic acid**, the skin's natural moisturizer.⁶

While ashwagandha helps protect the skin against the effects of stress, it also helps to benefit stress-related health conditions. In a randomized, double-blind, placebo-controlled trial, **98** chronically stressed adults were assigned to receive a patented standard-

ized extract of ashwagandha for **60** days. They received either **125** mg once or twice a day, **250** mg twice a day, or a placebo. Their stress levels were measured throughout the study and blood pressure was taken at the beginning and at the end of the study.¹⁸

The researchers found that all three groups taking the ashwagandha reduced their stress and anxiety and lowered their blood pressure levels. The group receiving the lowest dose of **125** mg once a day had a **62%** reduction in anxiety compared to those with the placebo, with anxiety scores declining even further in the other two groups. In addition, the group receiving the daily dose of **125** mg showed a **14.5%** reduction in cortisol levels and a **13.2%** increase in DHEA, with the other two groups reporting significantly greater benefits. In addition, all three groups taking ashwagandha saw a definite drop in their levels of **C-reactive protein**, which is a measure of inflammation within the body.

The researchers concluded that the **“daily use of *Withania somnifera* (also known as ashwagandha) would benefit people suffering from the effects of stress and anxiety without any adverse effects.”**¹⁸

In response, *Polypodium leucotomos* has recently been combined with a patented form of *Phyllanthus emblica* (from the **Indian gooseberry**) and **ashwagandha**—a medicinal herb that has been used for thousands of years by **Ayurvedic** practitioners. Rich in **flavonoids** and **steroidal lactones** called **withanolides**, ashwagandha works as an **adaptogen** to relieve the damage that emotional stress can inflict on skin.^{3,6,19,20}

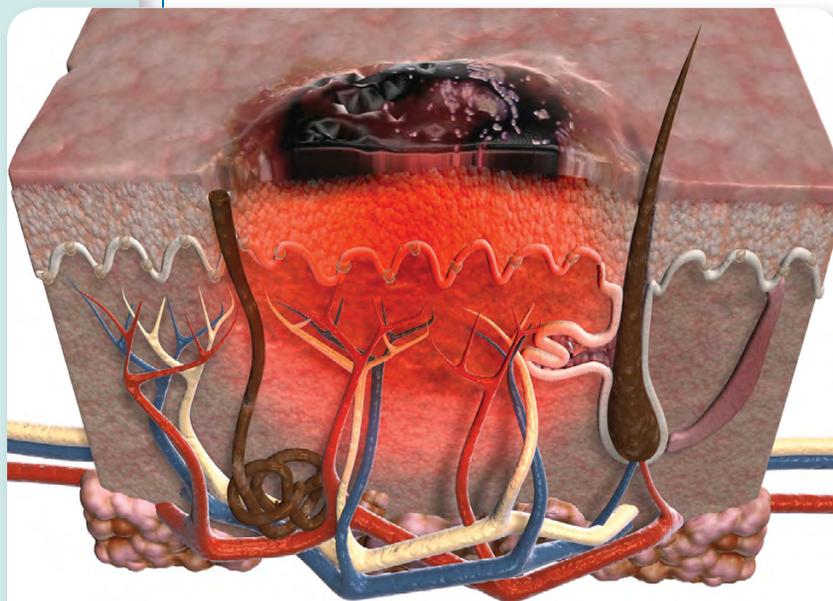
How the Sun's Rays Affect You

The Earth's ozone layer filters out most of the sun's harmful rays, but those ultraviolet rays—UVA and UVB—that do manage to penetrate the ozone both tan and damage the skin. Blocking these rays helps prevent an array of problems including sunburn, photoaging, lowered immunity against infection, and skin cancers.

UVA rays,²⁴ which make up about **95%** of UV radiation, have a wavelength (**320-400** nm) that penetrates into the deepest layer of the skin. The ultraviolet light generates destructive reactive oxygen species that interfere with the DNA's repair mechanism. UVA also suppresses special immune system Langerhans cells that are charged with destroying harmful substances such as microorganisms or toxins before they can hurt the skin or penetrate further into the body. UVA rays also trigger a breakdown of collagen fibers. The result: skin develops wrinkles, sags, age spots, dries out, becomes rough, and thins.

UVB rays have a shorter wavelength (**290-320** nm) than UVA rays, but they can penetrate the epidermis, the outer surface of the skin, damaging DNA and causing sunburns, swelling, and most skin cancers.

Skin cancers begin when UV radiation damages the DNA that controls skin cell growth. Experts believe that both forms of UV rays play a role in skin cancer, though UVB rays are a more potent cause of some skin cancers. One or two blistering sunburns early in life can greatly increase the lifetime risk of developing melanoma.²⁵



Cross-section of human skin with melanoma.

SUMMARY

Most of us fail to recognize the age-accelerating effects of *everyday* sun ray exposure to the skin. Just ten minutes a day of normal sun exposure is the equivalent of intentionally bathing in the sun for over an hour every week.

Sun self-defense is crucial to prevent skin cancer, skin aging, and immune system suppression. Even when using a sunscreen, many of us are less-than-perfect, inconsistent applicers of topical protection.

Polypodium leucotomos is a tropical fern plant with potent antioxidant and anti-inflammatory properties that scavenges free radicals, protects DNA, and provides significant protection against other UV dangers. *Polypodium leucotomos*, when taken orally, works as a skin protector at a deep cellular level.

This fern extract, along with Indian gooseberry and ashwagandha, however is not meant to substitute for topical sunscreens and should not give anyone a false sense of security about their sun exposure. ●

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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What You Need to Know

Unleash Your Skin's Internal Defenses

- *Polypodium leucotomos* is a **fern plant** that grows in the Honduran jungles and rain forests.
- Ferns have been used for a variety of medicinal purposes, possibly beginning with **Dioscorides**, a Greek physician and botanist back in the first century.²¹ The ancient Mayans used it as a tea in their daily diet to purify the blood.
- Indigenous people of Central and South America have used *Polypodium leucotomos* extract for centuries for the treatment of skin ailments such as psoriasis, **atopic dermatitis**, and sunburn.
- Research supports the use of *Polypodium leucotomos* as an "**internal sunscreen**."^{22,23}
- **Ashwagandha** is an Ayurvedic tonic best known for helping individuals deal with stress. It is also known as **Indian ginseng**.¹⁸
- Ashwagandha relieves the damage that emotional stress can inflict on the skin, and *Phyllanthus emblica* (**Indian gooseberry**) provides potent antioxidant protection against skin-damaging free radicals.^{18,19}
- Together these three ingredients protect against the harmful effects of the sun and work to keep skin looking **smooth, beautiful, and healthy**.



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Green Tea Extract

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

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

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

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

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

These highly-concentrated **Mega Green Tea Extract Caps** contain **725 mg** of either **lightly caffeinated** or **decaffeinated** 98% standardized green tea extracts. The retail price for a **100-capsule bottle** of **Mega Green Tea Extract** is **\$28**.

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

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

Item #00953

Contains rice.

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



Item #00954

Red yeast rice is produced by fermenting polished rice with various strains of the yeast *Monascus purpureus*. It contains numerous natural extracts including **monacolins** and **sterols**.

Choosing the **right** red yeast rice can be difficult as its popularity has resulted in a broad array of products that vary widely in both quality and purity.

Of particular concern is **citrinin**, a potentially toxic compound formed during the manufacturing process that has been found in some red yeast rice supplements.

Life Extension® does not make a red yeast rice supplement, but has *evaluated* commercial sources using the most sophisticated high-resolution analytical techniques to detect **citrinin** content.

In addition to providing high-grade, standardized red yeast rice extracts, no citrinin was detected in the following brands of red yeast rice:

NATURE'S PLUS

Nature's Plus Herbal Actives red yeast rice provides a high concentration of active botanical principles. This uniformly standardized supplement maximizes efficient delivery of the whole red yeast rice extract. The suggested serving size is one **600 mg** capsule per day, although some individuals may choose to ingest up to **1,800 mg per day**.



Item# 00979

Nature's Plus Red Yeast Rice

600 mg • 60 vegetarian capsules • Item# 00979
A bottle containing 60 capsules of **Nature's Plus Red Yeast Rice** retails for \$23.20. Life Extension members pay only **\$17.40** per bottle.

BLUEBONNET

Bluebonnet's red yeast rice extract also meets Life Extension's standards for quality and purity—with no **citrinin** detected. The suggested serving size is one **600 mg** capsule per day, although some individuals may choose to ingest up to **1,800 mg per day**.



Item #01030

Bluebonnet Red Yeast Rice

600 mg • 60 vegetarian capsules • Item# 01030
A bottle containing 60 capsules of **Bluebonnet Red Yeast Rice** retails for \$16.95. Life Extension members pay only **\$12.71** per bottle.

CHO-LESS

Individuals who wish to obtain a red yeast rice supplement along with other beneficial nutrients may choose **Cho-Less**, which features the following ingredients:

Serving size: 2 capsules	Amount per serving
Red yeast rice	505 mg
Artichoke leaf extract	100 mg
Pantethine	100 mg
Guggul standardized extract	95 mg
Beta-sitosterol	90 mg
Niacin	90 mg
Policosanol	20 mg
Total	1,000 mg



Item #01359

The suggested use for **Cho-Less** is two capsules, 2-3 times per day.

Cho-Less

90 capsules • 1,000 mg • Item# 01359
A bottle containing 90 capsules of **Cho-Less** retails for \$32.50. Life Extension members pay only **\$24.38** per bottle.

RED YEAST RICE SUPPLEMENTS Tested for Purity

To order any of these standardized and purified red yeast rice supplements, call 1-800-544-4440 or visit www.LifeExtension.com

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Complete Skin Protection

From Inside Out

Scientists are realizing that skin needs to be protected against external factors such as sunlight, and also against internal damage caused by emotional stress. This is because our emotions, particularly stressful ones, release a wave of stress hormones such as cortisol that prematurely age the skin.

Fortunately, emerging research suggests that a natural herb called **ashwagandha** can protect and enhance psychological health as seen in a recent human trial.¹ In this study, just 125 mg of a patented ashwagandha extract once a day led to a **14.5%** reduction in cortisol levels in 98 chronically stressed individuals. This dose also resulted in a **13.2%** increase in levels of the anti-aging hormone DHEA, which helps maintain the youthfulness of skin cells. Overall, the ashwagandha-treated subjects experienced up to **62%** reduction in anxiety levels compared with virtually no change in the placebo group.

The impressive results from this trial have led to the incorporation of **ashwagandha** into a new skin-protection formula called **Enhanced FernBlock® with Sendara™**. As the name suggests, this formula also contains **FernBlock®**, the revolutionary oral supplement introduced by Life Extension® in July 2008 that acts as an internal sunscreen against damaging solar radiation.

FernBlock® is a natural extract derived from the fern plant *Polypodium leucotomos*. Extensive clinical studies document its ability to provide remarkable skin protection by inhibiting the absorption of harmful ultraviolet (UV) rays and quenching DNA-corrupting free radicals. **FernBlock®** also diminishes the consequences of excessive UV radiation by favorably altering a number of changes in skin cells that cause premature skin aging.

Enhanced FernBlock® with Sendara™ is complemented with a powerful antioxidant called *Phyllanthus emblica*. This natural extract blocks a chemical reaction that generates several types of skin-damaging free radicals, thus shielding the skin against the destruction of collagen and other dermal matrix proteins. An *in vitro* study² using a patented extract of both **ashwagandha** and *Phyllanthus emblica* demonstrated an impressive **54%** inhibition of collagen-degrading enzymes and an **86%** inhibition of those that break down hyaluronic acid—the skin's natural moisturizer.

The unique combination of natural ingredients in **Enhanced FernBlock® with Sendara™** has been scientifically proven to help skin look and feel good from the inside out. This formula is designed to complement topical sunscreens for complete skin protection.

A bottle containing **30** vegetarian capsules of **Enhanced FernBlock® with Sendara™** retails for \$39. If a member buys four bottles, the cost is only **\$26.25 per bottle**.

Contains corn and rice.

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1. JANA. 2008;11(1):50-6.

2. NutraGenesis LLC. Data on file. 2008.

Patent Pending Sendara™ is a trademark of NutraGenesis LLC.

FernBlock® is a registered trademark of Industrial Farmaceutica Cantabria, S.A.



Item #01311

TO ORDER
**Enhanced FernBlock®
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You Are Eating More Calories Than You Think

And What You Can Do to Protect Yourself

BY JULIUS GOEPP, MD

An estimated **30 million Americans** over age 20^{1,2} face lethal risks from **excess caloric intake**, but have no idea they are jeopardizing their health and longevity.

The reason why may surprise you: these individuals *appear* thin and healthy. Many adhere to a decent dietary and exercise regimen.^{1,2} But according to a comprehensive analysis conducted by heart researchers at the Mayo Clinic, they are *still* ingesting more calories than their bodies are able to utilize. The deadly consequences, published earlier this year, include:

- Four-fold higher rates of metabolic syndrome in later life
- Increased cardiovascular disease risk
- Blood lipid abnormalities in men and women
- Hypertension in men
- *Double* the risk of cardiac death in women.^{1,2}

This modern *scourge* of overconsumption happens to be an independent risk factor for virtually all age-related diseases—from cancer and atherosclerosis to arthritis and dementia.³⁻⁸

It is also the principal challenge confronting aging individuals who wish to reap the extraordinary benefits of **caloric restriction** or CR. Reducing the number of calories you

consume while maintaining optimal nutritional status initiates a system-wide anti-aging cascade. By “switching on” genes that favor youthful physiological function, caloric restriction dramatically slows the pathological aging process.

CR also improves biomarkers of health across the board, from cognitive function and cancer risk to glucose control and cardiac health.⁹⁻¹⁴ Yet most people cannot submit to a sufficiently restrictive dietary regimen to obtain the benefits.

The good news is that *avant-garde* researchers have brought to light a novel class of nutrients called **calorie restriction mimetics**. This handful of natural compounds has been shown to safely *simulate* some of the beneficial effects of calorie restriction *without* the need for stringent dietary measures.

Earlier this year, **Life Extension**[®] provided you with the *first* comprehensive review of five known CR mimetics, some that Foundation members have been taking for many years.

In this article, you will learn of the latest research on these cutting-edge compounds. You will also discover the **sixth CR mimetic** to emerge in the scientific literature. This little-known but potent flavonoid called **fisetin** is difficult to obtain in sufficient amounts through diet alone.¹⁵ The most recent scientific evidence indicates it affords particular protection to the aging brain—and *enhances* the action of resveratrol!¹⁶⁻²⁰ > >

Caloric Restriction: The Longevity Gene Activator

A *wealth* of scientific data spanning more than seven decades confirms caloric restriction's unmatched power to boost longevity in nearly all forms of life, as much as 100% in some species.^{21,22}

One of the primary means by which calorie restriction induces its profound anti-aging effects is through *favorable gene expression*. CR has been shown to activate a class of powerful *signaling molecules* known as *silent information regulators* (Sir), or *sirtuins*. These operate across multiple cellular pathways, regulating gene expression, aging, metabolism, DNA repair, and *apoptosis* (programmed cell death).²³⁻²⁵

Sirtuins are ubiquitous in nature; one or more sirtuins are present in most species, from bacteria to mammals.²³ This may explain why calorie restriction so radically increases life span across the full range of living organisms.

In response to a reduction in caloric intake—sirtuins initiate a sequence of profoundly beneficial age-delaying processes. The *sirtuin-mediated* effects of calorie restriction have been successfully replicated in species ranging from yeast to higher primates.^{9,26} Sirtuins have been shown to:

- Enhance protection against oxidative stress
- Minimize protein damage by glucose (glycation)
- Prevent accumulated DNA damage
- Inhibit inflammation
- Improve mitochondrial function
- Promote the function of organelles (cellular sub-structures) responsible for maintaining structural and functional integrity²⁷⁻⁴⁰

Through these and other mechanisms of action, caloric restriction improves virtually all biomarkers of health. In a landmark **20-year** controlled study of CR in primates published last year, a *moderately* restricted diet produced a **three-fold reduction** in the risk of age-related disease. Cardiovascular disease and cancer incidence were less than *half* in the calorie restricted group, and none of the monkeys developed impaired glucose control or diabetes.⁹

Fisetin: A New Multimodal CR Mimetic

Although present in strawberries, the flavonoid **fisetin** is a relatively rare nutrient found only in minute quantities in the plant kingdom. It has been shown to maintain levels of **glutathione** (the primary antioxidant internal to most cells in the body) in the presence of oxidative stress.¹⁷ Its exceptional capacity to ward off age-related cognitive decline through the modulation of multiple neuronal (nerve cell-related) pathways has drawn the most intense scientific interest.¹⁷ Fisetin also exerts multimodal effects common to known caloric restriction mimetics.

Among the many recent findings on fisetin, one in particular stands out: it may act to *stabilize* resveratrol by shielding it from metabolic breakdown in the liver.²⁰ Scientists believe fisetin may thus increase the amount of resveratrol staying in the blood, enhancing its effects. This is important because one of resveratrol's possible limitations is a relatively short half-life in the body.

Antioxidant Protection

Fisetin's antioxidant potency is comparable to quercetin.⁴¹ Alone among the polyphenols, fisetin induces genetic expression of a powerful cellular antioxidant



system called **quinone reductase** or **QR**, which is vital in preventing oxidant-induced carcinogenesis.⁴² The antioxidant action of fisetin has been shown to significantly extend the life span of *C. elegans*—a benchmark indicator of CR *mimesis* (simulation).^{43,44} Its proven ability to *inhibit* oxidation of harmful LDL cholesterol also indicates fisetin’s potential in preventing cardiovascular disease.^{45,46}

Glycation Blockade

Laboratory studies show that fisetin inhibits *glycation* (destructive binding of sugar molecules to functional proteins) in human hemoglobin, protecting red blood cells from long-term damage.⁴⁷ It interacts beneficially with other human proteins and with DNA.⁴⁸ These effects likely account for its specific ability to protect brain and nerve tissues. Studies show that *advanced glycation end-products* (AGEs) and their receptors are closely linked to conditions such as Alzheimer’s disease and other forms of cognitive decline.⁴⁹⁻⁵¹

DNA Protection

Fisetin ranks very high among **flavonoids** at preventing DNA damage.⁵² Low doses of fisetin offer superior protection against DNA strand rupture induced by hydrogen peroxide, a potent free radical.⁵³ These effects also place fisetin high on the list of potentially effective cancer-preventing agents.

Inflammation Control

Fisetin suppresses inflammatory cytokine production by diverse mechanisms.⁵⁴ It downregulates the master inflammatory modulator NF-kB,⁵⁵ which may reduce inflammatory responses, cancer-related cell proliferation, and metastatic alterations through a unique set of cellular mechanisms.^{56,57}

Mitochondrial Support

Fisetin has been shown to protect mitochondria against repeated oxidative stress.¹⁷ Cells treated with fisetin are able to maintain mitochondrial-dependent levels of *adenosine triphosphate* or ATP—the body’s primary “energy currency”—in the presence of powerful mitochondrial toxins.¹⁷ In live animal studies, researchers found that fisetin could significantly improve behavioral outcomes when administered five minutes *after* the initiation of an embolic stroke.¹⁷ Strokes impose a huge metabolic burden on brain tissue, and destruction of mitochondria is one reason for the neurological deficits observed after such events. Fisetin was shown to reduce the amount and volume of brain damage following induction of stroke in animal models.¹⁷



What You Need to Know

Caloric Restriction

- Scientists estimate that **30 million Americans** face the lethal risks of excessive energy (calorie) intake, even though they *appear* thin and healthy.
- The result is a four-fold increase in risk of developing metabolic syndrome, increased risk of cardiovascular disease, and more than *double* the risk of cardiac death in women.
- These alarming findings reflect the difficulty of avoiding excess calories in affluent societies—and underscore the enormous challenge facing individuals wishing to obtain extraordinary benefits of caloric restriction.
- Fortunately, *avant-garde* research has brought to light a handful of nutrients that can safely simulate the effects of caloric restriction.
- Each operates in a multitargeted and complementary fashion to attain calorie restriction-like effects within cells.
- They have been shown to limit oxidation, reduce glycation, restrict or even repair DNA damage, quell inflammation, support mitochondrial health, and enhance the function of the cellular sub-units called *proteasomes* and *lysosomes*.
- In addition to the five natural CR mimetics Life Extension reviewed earlier this year, a sixth has been identified called **fisetin**.
- Fisetin has been shown to optimize levels of the endogenous antioxidant glutathione in cells, target factors implicated in brain aging, and may even *enhance* the action of resveratrol.

Protection of Vital Cellular Components

Fisetin consistently increases activity of a vital cellular waste excretion unit called the **proteasome**, to such an extent that it promotes nerve cell survival following withdrawal of otherwise vital growth factors.⁵⁸ Proteasome activity is decreased in a variety of age-associated neurological disorders including **Alzheimer's** and **Parkinson's** diseases.¹⁷ Researchers in the laboratory of Dr. Pamela Maher of the Salk Institute for Biological Studies found that fisetin was able to modestly increase proteasome activity in primary cultures of brain cells, promoting their survival and preserving their optimal functioning.¹⁷

Maher and her colleagues found that fisetin promotes long-term potentiation of brain neurons, thereby enhancing memory in two pre-clinical models of aging.^{17,18}

Compelling New Evidence for Established CR Mimetics

Resveratrol

Resveratrol, the most widely known of the CR mimetics, is a polyphenol found most abundantly in red wine grape skins, as well as in many other darkly colored fruits, accounting in part for their known health-promoting effects.⁵⁹ Its ability to activate sirtuins has been thoroughly documented in the scientific literature.^{26,59-64}

While a potent sirtuin activator and antioxidant in its own right, resveratrol *also* mobilizes a number of antioxidant processes internal to cells.^{59,65-69} These combined effects are responsible for resveratrol's



ability to prevent oxidative damage following heart attack or stroke, heading off many of its deadly consequences.⁷⁰ Similarly, resveratrol's antioxidant function is credited with prevention of the neuronal damage observed in Alzheimer's and other neurodegenerative diseases.^{63,68,71,72}

Resveratrol also inhibits *advanced glycation end products* (AGEs) that arise from lifelong exposure to glucose in blood—both effects and causes of type 2 diabetes. Resveratrol inhibits AGE-induced smooth muscle cell overgrowth in blood vessel walls.⁷³ It protects laboratory animals from kidney damage in early-stage diabetes by switching on a protective enzyme system called adenosine monophosphate-activated serine/threonine kinase (AMPK).⁷⁴

Resveratrol improves insulin sensitivity and regulates genetic expression of dangerous *adipokines*, cytokines produced by fat tissue, which are associated with development of diabetes and the consequences of the metabolic syndrome.⁷⁵ In early 2010 it was discovered that resveratrol reduces body weight and fat content in obese animals through its effects on gene expression and enzyme activities.⁷⁶

Pterostilbene

Pterostilbene is a polyphenol closely related to resveratrol, but with unique attributes, including potent cancer-preventing and lipid-lowering capabilities.^{77,78} It has powerful antioxidant capabilities, scavenging destructive free radicals and inhibiting oxidant-induced electrolyte loss from cells.⁷⁹ Diabetic animals supplemented with pterostilbene demonstrate marked improvements in their damaged cellular antioxidant systems.⁸⁰ Supplemented rats experience remarkable reversal of age-related cognitive deficits.⁸¹ Astonishingly, pterostilbene switches on genes governing the production of intracellular antioxidant enzymes such as **superoxide dismutase** (SOD).⁸²

Pterostilbene has been shown to directly lower blood glucose, which may help prevent the formation of AGEs. Remarkably, pterostilbene's ability to lower glucose was comparable to that of metformin, a pharmaceutical used in the management of diabetes.⁸³

Pterostilbene displays potent cancer-preventing effects related to its ability to prevent or repair DNA damage, one of the first steps in cancer initiation. It inhibits development of pre-cancerous lesions in mouse models of breast cancer, similarly to resveratrol.⁷⁹ And pterostilbene can prevent expression of genes that otherwise promote cancer metastasis; it has also been shown to inhibit metastatic malignant melanoma growth and extend host survival.⁸⁴

Like its close relative resveratrol, pterostilbene is perhaps best known for its potent inflammation-



quenching effects, which it achieves, as usual, by several complementary mechanisms. Pterostilbene inhibits the ubiquitous COX-2 enzyme responsible for producing inflammatory prostaglandins, which are also involved in creating the pain sensation.⁸⁵ Pterostilbene also targets inflammatory cells called macrophages, reducing their ability to multiply; this has enormous application to atherosclerosis, which requires activated macrophages to initiate deadly inflammatory plaques.^{86,87}

Grape Seed Extract

Grape seed extracts (GSE) favorably influence expression of genes involved in cellular aging, giving them a broad array of multitargeted benefits.^{88,89}

GSE has been shown to enhance antioxidant status and decrease free radical-induced protein oxidation in aging rats' brains.⁹⁰ A 2009 study of type 2 diabetics at high risk of cardiovascular disease showed that GSE significantly improved markers of inflammation, oxidative stress, and blood sugar over a 4-week period.⁹¹

GSE's remarkable cardiovascular health benefits also derive from their ability to fight advanced glycation end products (AGEs) in endothelial tissue.^{92,93}

GSE effectively combats inflammatory responses throughout the body by modifying gene expression. One early study found beneficial alterations in expression of 13 proteins in brain tissue alone.⁸⁸ GSE inhibited platelet inflammatory responses at doses easily attainable in humans, demonstrating an additional vascular protective effect.⁹⁴ And GSE switched off the inflammatory "master molecule" NF- κ B in mice exposed to UV radiation, helping to mitigate oxidant-induced inflammation.⁹⁵

Quercetin

The polyphenol quercetin protects endothelial tissue against oxidative damage by preventing oxidation of LDL cholesterol, one of the chief offenders in the atherosclerosis cascade.^{96,97} It also reduces the new production of fats by liver cells.⁹⁸ Quercetin's antioxidant capacity prevents heart enlargement caused by blood pressure overload in laboratory animals.⁹⁹ By a different mechanism, quercetin prevents migration and proliferation of vessel wall muscle cells in response to oxidative stress and activated platelets.¹⁰⁰

Quercetin sharply reduces genetic expression of major inflammatory cytokines, suggesting its use for treatment of allergic and other inflammatory conditions.^{101,102} Inflammation plays a vital role in cancer development and cardiovascular disease as well, and quercetin's anti-inflammatory effects lead to reduced invasiveness of certain breast cancers and reduced production of adhesion molecules in vascular endothelia.^{103,104}

Black Tea

Consumption of black tea is widely known to improve circulating antioxidant status in humans.^{105,106} Black tea's polyphenols and other constituents are particularly notable for their cardiovascular protective effects.¹⁰⁷ These arise through a host of interlocking antioxidant-mediated mechanisms including reduced platelet aggregation, improved endothelial function, and reduced vascular inflammation.¹⁰⁸⁻¹¹⁰

Components of black tea are powerful inhibitors of glycation and can prevent diabetic cataracts, further proving their calorie restriction mimetic credentials.¹¹¹ Unlike most of the other nutrients we've discussed, the



black tea polyphenols don't directly reduce production of advanced glycation end products (AGEs); rather, they trap them as they are produced, reducing their concentrations in tissues.^{112,113}

Activate Your Longevity Genes without Hunger

Scientists estimate that 30 million Americans face the lethal risks of *excessive energy intake*, even though they *appear* thin and healthy.

These alarming findings underscore the enormous challenge of avoiding *excess energy intake* and the obstacles of undertaking a **caloric restriction** regimen.

Fortunately, *avant-garde* research has brought to light a handful of nutrients that can safely simulate many of the effects of caloric restriction. Each operates in a multitargeted and complementary fashion. These nutrients have been shown to limit oxidation, reduce glycation, restrict or even repair DNA damage, quell inflammation, support mitochondrial health, and enhance the function of the cellular sub-units called proteasomes and lysosomes.

In addition to the five natural CR mimetics *Life Extension* reviewed earlier this year, a sixth has been identified called *fisetin*. It optimizes levels of the endogenous antioxidant **glutathione** in cells, targets factors implicated in brain aging, and may even *enhance* the action of resveratrol. ●

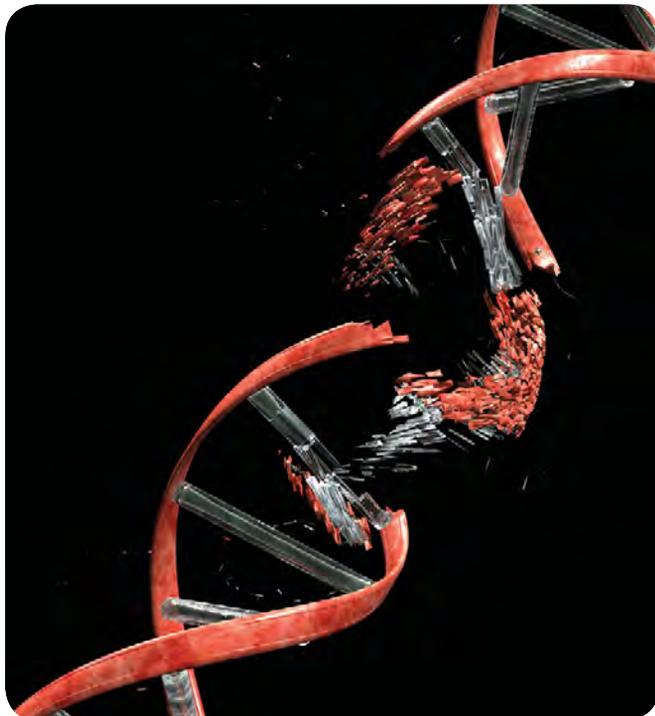
To read an in-depth scientific report that describes all of the documented benefits of caloric restriction mimetic nutrients, log on to www.LifeExtension.com/Calorie-Restriction

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

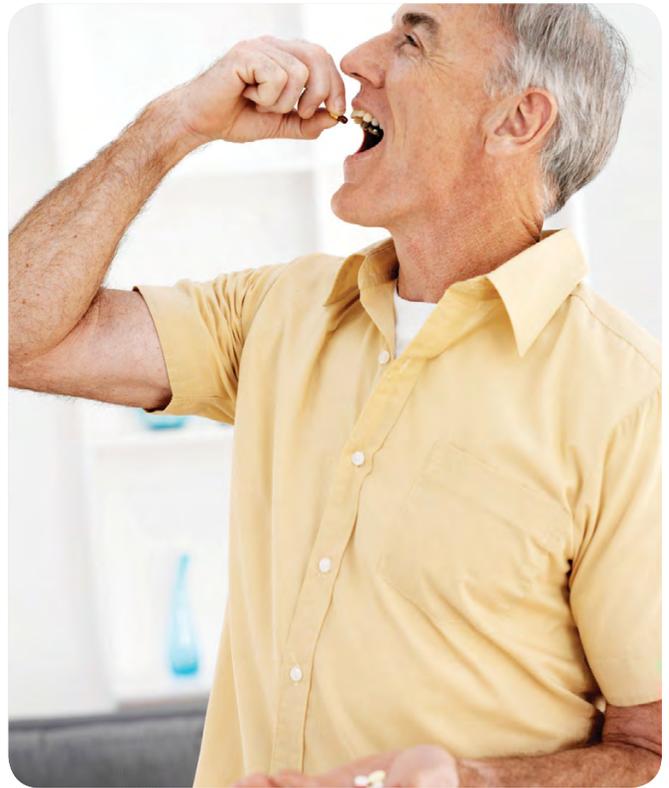
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Achieve Multiple Health Benefits From Highly Absorbable Curcumin

How Much Curcumin Are You Absorbing?

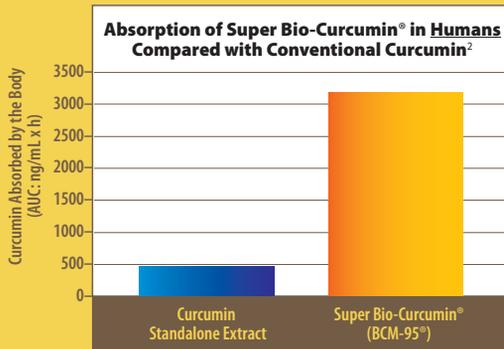


Chart 1. Super Bio-Curcumin® (BCM-95®) showed 6.9 times greater bioavailability (absorption and sustainability over 8 hours) in humans compared with conventional curcumin (as measured by the area under the curve [AUC] in a plot of blood levels against time, that is, the total amount of curcumin absorbed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

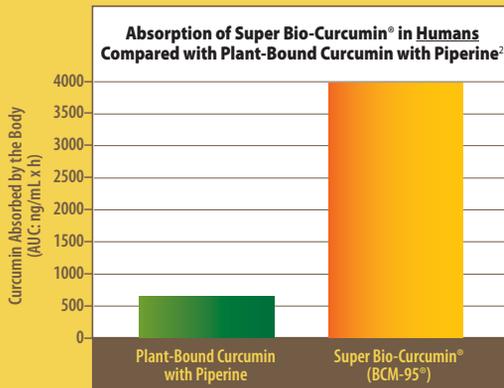


Chart 2. Super Bio-Curcumin® (BCM-95®) showed 6.3 times greater bioavailability (absorption and sustainability over 8 hours) in humans compared with plant-bound curcumin with piperine (as measured by the area under the curve [AUC] in a plot of blood levels against time, that is, the total amount of curcumin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

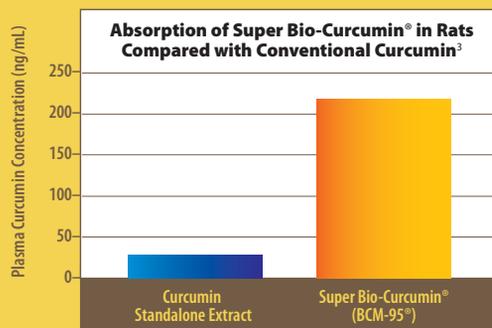


Chart 3. Bioavailability in rats fed with BCM-95® is 7.8 times higher than conventional curcumin.

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, the price is reduced to just **\$19.88** 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

Bio-Curcumin® and BCM-95® are registered trademarks of Dolcas-Biotech, LLC.

Contains rice.

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

Ease Joint Discomfort With Arthro-Immune Joint Support

Effectively
Combat Inflammation



One capsule provides:

BCM-95® Bio-Curcumin® Extract	250 mg
PARACTIN® Andrographis Extract.....	150 mg

Inflammatory conditions debilitate millions of adults, resulting in *restricted mobility* and *reduced strength*. **Inflamed joints** can lead to *extensive damage* to surrounding connective tissues, which causes the hands, feet, and arms to become painful, swollen and stiff.

While conventional methods can produce side effects, **Arthro-Immune Joint Support** from **Life Extension®** combines two clinically proven plant extracts into one powerful formula to help those suffering from inflammation.

Andrographis paniculata has received acclaim for its beneficial effect on inflammation.¹ A Chilean study involved 60 adults who took either 150 mg **andrographis extract** a day or a placebo. Those taking the extract showed *dramatic improvement* of several outcomes, **including fewer numbers of tender and/or swollen joints**. For joints that remained tender and/or swollen, the intensity was lessened.²

Curcumin is a compound that is universally recognized for its impressive *antioxidant* and *fluid-regulating* properties. In an as-yet-unpublished double-blind clinical trial, an enhanced absorbing curcumin was shown to have a beneficial effect on inflammation.³

Life Extension's Arthro-Immune Joint Support contains **PARACTIN® Andrographis extract**, which has been used in clinical, animal and *in vitro* studies that have demonstrated

its efficacy in *combating* inflammation. It also contains **BCM-95® Bio-Curcumin®**, which is considered the *gold standard curcumin*, with bioavailability *far superior* to that of most curcumin extracts.

Life Extension's Arthro-Immune Joint Support provides scientifically validated plant extracts that have been shown to have significant salutary effects on tender or swollen joints. **Just one** capsule a day provides a potent serving of **PARACTIN®** and **BCM-95® Bio-Curcumin®**. A bottle of 60 capsules retails for \$30. When a member buys four bottles, the price is reduced to only **\$20.25 per bottle**.

CAUTION: Do not take if you have gallbladder problems or gallstones. If you are taking anti-coagulant or anti-platelet medications, or have a bleeding disorder, consult your health care provider before taking this product.

BCM-95® and Bio-Curcumin® are registered trademarks of Dolcas-Biotech, LLC. PARACTIN® is a registered trademark of HP Ingredients.

References:

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



INTRODUCING

The Next Generation in Anti-Aging Technology

CR Mimetic Longevity Formula

featuring an Innovative
Resveratrol *Enhancer*

OR

Optimized Resveratrol with Synergistic Grape-Berry Actives

featuring an Innovative
Resveratrol *Enhancer*



In **2003**, the **Life Extension Foundation**[®] introduced standardized extract of **resveratrol**, a natural compound shown to favorably alter genes implicated in the aging process—many of the same genes that respond to **calorie restriction** or **CR**.

In **2009**, we introduced the “other” resveratrol, **pterostilbene**, a compound whose effects were found to work in *synergy* with resveratrol to activate your “longevity genes.”

This year, we advanced the field even further, bringing together the **5** known **calorie restriction mimetics** in a single, high-potency formula: **resveratrol**, **pterostilbene**, **quercetin**, **grape seed polyphenols**, and **black tea extract**.¹⁻⁸

Today we announce the latest innovation in the science of longevity with new **CR Mimetic Longevity Formula** and **Optimized Resveratrol**, both featuring **fisetin**. This little-known flavonoid is the **sixth** compound shown to simulate a similar youthful gene expression pattern as calorie restriction⁹—without significant dietary modification.

In the most exciting development to date, this novel compound (fisetin) may also enhance the effects of resveratrol!¹⁰

Unleashing the Synergistic Power of Berry Actives

Life Extension[®] has gone to extraordinary lengths to identify compounds that simulate calorie restriction’s ability to trigger youthful *gene expression*—the process by which genes transmit signals that slow certain aspects of aging.

For example, previous research funded by Life Extension showed that a combination of low-dose (**20 mg**) resveratrol plus **grape seed extract** induced many of the favorable gene expression changes observed in **calorie-restricted** animals.

Our comprehensive review of the scientific literature further revealed that certain compounds found in **berries**, such as pterostilbene, *also* possess potent “longevity gene” activators that work in synergy with resveratrol.

Most abundant in strawberries, **fisetin** has the power to “switch on” powerful cell signaling molecules that support youthful gene expression, DNA protection, and healthy cellular function.⁹ It also supports aging neurons in the presence of oxidative stress.¹¹⁻¹³

Each serving of the new **CR Mimetic Longevity Formula** contains fisetin in an amount equivalent to 2 cups of strawberries, helping to further emulate calorie restriction’s favorable influence on your longevity genes.

Most importantly, fisetin works in *synergy* with resveratrol. Researchers have uncovered compelling evidence of fisetin’s ability to **stabilize** resveratrol by shielding it from metabolic breakdown¹⁰ and extending its effects.

To take advantage of this extraordinary property, the new **Optimized Resveratrol with Synergistic Grape-Berry Actives** also includes fisetin, to enhance resveratrol’s beneficial action.

Either one of these new formulas provide cutting-edge broad-spectrum support for youthful gene expression from the most scientifically validated, natural sources.

CR Mimetic Longevity Formula

A bottle containing 60 vegetarian capsules of **CR Mimetic Longevity Formula** retails for \$39. If a member buys four bottles, the price is reduced to just **\$27** per bottle. The suggested daily dose of two capsules a day provides:

Trans-Resveratrol	250 mg
Trans-Pterostilbene	3 mg
Quercetin	150 mg
Grape seed extract	50 mg
Black tea extract	300 mg
Fisetin	48 mg



Item #01429



Optimized Resveratrol with Synergistic Grape-Berry Actives

A bottle containing 60 vegetarian capsules of **Optimized Resveratrol with Synergistic Grape-Berry Actives** retails for \$46. If a member buys four bottles, the price is reduced to just **\$31** per bottle. The suggested dose of one capsule a day provides:

Trans-Resveratrol	250 mg
Grape-Berry Actives	85 mg
Quercetin	60 mg
Trans-Pterostilbene	0.5 mg
Fisetin	10 mg



Item #01430

Contains yeast.

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Life Extension is Funding Study of Therapy That Cured Cancer in 100% of Mice

In a discovery that made headline news around the world, Dr. Zheng Cui of the Wake Forest University School of Medicine developed a colony of mice with **super-charged granulocytes** that successfully fight off any form of virulent transplanted cancer.¹ These **super-charged granulocytes** infiltrate tumor cells and destroy them. The mice given these potent granulocytes are healthy, cancer free, and have a normal life span.

This research project started serendipitously in 1999 when Dr. Cui was testing the effects of administering cancer cells to mice. He found that one mouse did not develop tumors no matter how many cancer cells he administered. Further investigation led Dr. Cui to discover that the mouse that appeared to be immune from cancer had an extra amount of potent *granulocytes* for specifically killing cancer cells without harming normal cells. When Dr. Cui administered these potent *granulocytes* to mice with cancer, he cured them.²

This discovery was heavily publicized in **2007-2008**, yet no one stepped forward to fund a clinical study to see if this immune-augmentation therapy could cure cancer in

humans. When the Life Extension Foundation® learned that this potential breakthrough was not being funded, we immediately made a **\$200,000** grant to help fund a human clinical trial at the **South Florida Bone Marrow/Stem Cell Transplant Institute** located in Boynton Beach, Florida.

The rationales behind this human study are laboratory experiments showing that some people's immune cells can be almost **50 times** more effective in fighting cancer than others.³ It is now possible to harvest these *super-charged granulocytes* from healthy young donors and infuse them into cancer patients with curative intent.

This clinical trial will test this approach in humans with advanced cancer, including metastases, who have not been helped by conventional cancer therapies. The trial has received an IND (investigational new drug) status from the FDA and Institutional Review Board approval. The principal investigator/lead physician for this trial is Dipnarine Maharaj, MD, who has in-depth experience in stem cell transplantation, including transfusion of blood products, hematology, and oncology.



In January of this year, Dr. Maharaj notified the **Life Extension Foundation** that progress was being slowed because expected funding sources had dried up. Life Extension responded with additional funding commitments to facilitate this critical research.

Dr. Maharaj, the Director of the South Florida Bone Marrow/Stem Cell Transplant Institute, stated, "***It would have been impossible for this project to exist without funding from the Life Extension Foundation.***"

According to William Faloon, who co-founded the **Life Extension Foundation** in 1980, "*These research grants have been awarded to help find a cure for cancer... Life Extension has no financial interest in the outcome of this research... Life Extension does have an interest in being able to recommend a validated cure for cancer to its millions of supporters worldwide.*"

Cancer patients who want further information about participating in this new study can contact Dr. Dipnarine Maharaj, Principal Investigator at 561-752-5522 or Dr. Steven



Hirsh of the Life Extension Foundation at 954-766-8433 or log on to Dr. Maharaj's website www.bmscti.org.

The clinical trial expenses include donor costs and building a healthy Donor Registry which is crucial as these donors are the 'medicine' for the cancer patients. There are tremendous costs involved in screening and testing donors, for which Life Extension has provided the main initial funding. However, the clinical trial requires an additional \$5 million in order to treat the study's quota of patients (up to 29 allowed by the protocol). Until such funding is available, patients who wish to get onto the study's waiting list are encouraged to visit Dr. Maharaj's website at www.bmscti.org to learn more about the study and fill out an application. Those wishing to contribute financially can also find information about donations on the website.

The following article describes the unique methods used by Dr. Maharaj to treat hematological cancers at his clinic. > >

The Immune System: A New Ally in Cancer War

BY STEPHEN LAIFER

Hematologist/Oncologist Dipnarine Maharaj, MD, medical director of the South Florida Bone Marrow Stem Cell Transplant Institute, utilizes bone marrow stem cell transplants to combat several common forms of cancer.⁴⁻⁸ One aspect that makes his approach unique is that the body's own immune system is conscripted into the fight. "Bone marrow stem cell transplant is a procedure whereby we treat patients suffering from different types of blood cancers," explains Dr. Maharaj. "The essence of the treatment is to repair the body's immune system using its own healthy stem cells."

Dr. Maharaj has been involved in bone marrow stem cell research and its possible applications since 1984.⁴ His roots as an innovator go back to childhood: his father and brothers were engineers. His mother and sisters, on the other hand, were nurses. "My mother wanted me to be involved in medicine," he recalls. "She would take me to the clinic when I was younger, and I got used to the idea that doctors do good things. But the engineering influence made me also want to be an innovator."

Medical studies in Glasgow, Scotland led to specializations in stem cell hematology and oncology, which Dr. Maharaj chose because he saw them as an area where he could make a real difference in the quality of cancer care. In Scotland, he was also involved with one of the first groups to explore bone marrow stem cell transplants.⁴ Today, aside from running the South Florida Bone Marrow Stem Cell Transplant Institute, he is also a lecturer in biological sciences at Florida Atlantic University. "My education helped shape me as a doctor and as a person. But for me, learning never ends," he says.

Clean Stem Cells

Many of Dr. Maharaj's patients come to the Institute after being told by other doctors there is nothing more that can be done for them. The first step, he says, is to get rid of the cancer in the patient's bone marrow. "Often this requires very high doses of chemotherapy to overcome the tumor cells' resistance to standard doses,"⁴⁻⁸ he says. He favors the analogy of a hammer: "You can crack a nut with a small hammer, meaning standard chemotherapy in this case. But if the nut is resistant, you have to use a sledgehammer."

Stem cell transplants can either be the patient's own, after having been cleaned of cancer cells, or they can be from a donor with the correct tissue match.⁹⁻¹² Dr. Maharaj says the ideal situation in many cancers is to identify a compatible donor, because stem cells are then sourced from an individual who has a normal immune system. However, in the conditions which he usually treats—multiple myelomas, non-Hodgkin's lymphomas, Hodgkin's disease and leukemia¹³⁻¹⁶—patients typically have a better outcome when using their own stem cells. "That's because these particular diseases tend to be more prevalent in older patients. Infections, graft rejections and other complications tend to be more frequent in older patients when a donor is involved."

With a patient's own stem cells, Dr. Maharaj stresses that scouring cancer while the marrow is still in the body is a crucial first step. "Many studies demonstrate that even if you purge the stem cells of the cancer in the lab, if you haven't first gotten the patient to the point where the tumor is basically eradicated, then the outcome isn't as positive,"¹⁴ he says. In these studies, cancer treatment centers have typically addressed cleaning the stem cells without considering how much residual cancer is still present in the patient. Patient survival in such cases is unacceptably low. "We have found that we first need to get the tumor load to the point where it is undetectable by conventional methods.^{15,16} Only *then* will we collect some of the bone



marrow and store it, destroy the residual cancer in the patient with high dose chemotherapy and put the stem cells back in.”

And here is where the uniqueness of the procedure is clearly demonstrated: Dr. Maharaj says the clean stem cells allow the immune system to undergo what he calls a clonal expansion.¹⁷⁻²² In effect, the system is “reset” and switched back on; any remaining cancer cells are identified and destroyed by the patient’s own recharged immune system. “We’re enabling the body’s own immunity to fight the cancer. It’s exciting,” says the oncologist, betraying a bit of the engineer’s enthusiasm for innovative solutions.

Home Recovery

Innovative treatment naturally calls for a novel approach to patient care. According to Dr. Maharaj, the Institute’s idea is to treat cancer patients in an environment which gives a good quality of life: specifically, an outpatient setting. “In fact, we are the only free-standing totally outpatient stem cell cancer treatment center in Florida,” he states.

Dr. Maharaj points to studies that prove the validity of this approach: in a 2004 study published in the *Critical Care Journal*,²³ for example, 600,000 patients in six states across the US were examined. Incidence of infections in cancer patients were broken up according to disease type. Patients with acute leukemia were 66 times more likely to get an infection (sepsis) in a hospital than a patient coming in with a heart attack. Similar statistics were seen with multiple myeloma (40 times greater risk), and lymphoma (16-20 times greater). Almost 5% of the cancer patients that were hospitalized in the six states were found to have severe sepsis, translating to around 126,000 on average cases nationwide. The data also showed that hospitalized patients with cancer and severe sepsis were more than five times as likely to die than cancer patients not suffering from severe sepsis.

“Patients with hematological malignancies by their nature have a very high risk of infection because it’s a disease of the immune system,” Dr. Maharaj explains. “Intermediate or high-dose chemotherapy patients have an additional layer of risk due to the severe immunosuppressive effects of the chemotherapy. Some of these infections cannot be treated with even the highest-level potency of antibiotics that we have available. And these types of infections are prevalent in hospitals.”

“When I came from Scotland to Florida, I was recruited to assist in the development of the bone marrow program at the University of Miami,” Dr. Maharaj recalls. “What I saw in inpatient programs were major



problems with complications directly traceable to infections. I thought that using the same approach to treatment while preventing the complications would be a much more proactive way of doing things.”

At the Institute, infections are controlled by strict attention to hand washing, as well as prophylactic use of antibiotics. “In an inpatient setting, if you give a patient ten times the dose of standard chemotherapy, that means ten times the risk of infection in a hospital. By allowing a patient to recover from treatment at home, we can largely avoid that risk.” Close scrutiny and evaluations also allow early intervention and treatment in the case of post-chemotherapy toxicities, further helping prevent in-patient hospitalizations. “We monitor 47 potential toxicities a day,” he says. “For each of those, we want to see no evidence of bad reactions.”

Another accomplishment at the Institute is the ability to administer high doses of chemotherapy while largely mitigating typical side effects like nausea, vomiting and diarrhea, or mucositis (ulceration in the digestive tract and/or mouth). “To permit treatment in the outpatient setting, we obviously need to avoid these side effects or keep them to an absolute minimum,” says Dr. Maharaj. “Thus we’ll give anti-nausea medications and other drugs in advance, rather than waiting for the problem to occur.”

Spreading the Word

By contrast, Dr. Maharaj says typical inpatient hospital transplant care is reactive; i.e., treatment of complications happens as and when they arise, which only results in prolonged hospitalization. “Reducing or eliminating hospital admissions results in significant cost savings to patients, insurance companies and employers.” At-home recovery also allows patients to

return to work or to resume normal daily activities sooner. But even more importantly, adds Dr. Maharaj, patients who receive a totally outpatient bone marrow/stem cell transplant return home following treatments and remain with their loved ones. “As many of our patients have testified, this can be especially helpful from the point of view of mental well-being, because people don’t feel as sick when they are at home compared to when they’re in a hospital.”

The stem cell transplant protocols employed by Dr. Maharaj and his South Florida Institute colleagues are medically accepted and widely utilized in many other transplant centers in the country, as is administration of high-dose chemotherapy. What is not standard, he says, is the outpatient approach to treatment. “It is difficult to understand why this isn’t more widespread,” says Dr. Maharaj. “We are successfully tackling some of the major risk factors found in hospitals, so I am at a loss to explain why there are not more centers that are treating patients with this more preventive approach.”

Indeed, some oncologists argue that the outpatient approach is risky for the patient. “I counter that by pointing to the fact that I have been giving high-dose chemotherapy in an outpatient setting since 1995,²⁴ and we have a 0% procedural mortality rate as well as a demonstrated ability to prevent infections and other complications. Our patients have done very well, and in our hands the outpatient model has proven to be safe and effective.”²⁴ Patient satisfaction is also high: “They love that they can receive their treatment in eight hours, instead of 24 in a typical hospital setting, and then they’re able to go home to be with their families, or back to a hotel in the case of patients visiting from outside the area.”



Dr. Maharaj stresses again that such a positive mental approach is crucial for healing. “When patients know they are going home instead of staying in a hospital, the obvious positive psychological effect improves their outcome.”

Helping Hand

The South Florida Institute is currently taking stem cell transplant research to an even higher level with a series of clinical trials designed to test the rebuilding of a cancer patient’s damaged immune system using the healthy immune systems of young individuals. “It’s a novel cancer therapy using transfusions of white blood cells from these healthy donors,” says Dr. Maharaj, adding that this newly-discovered innate activity for cancer resistance is made possible by specific populations of leukocytes (granulocytes and monocytes) that can be transfused from one individual to another.

Dr. Maharaj says he and his research team were approached by **Life Extension Foundation** board co-founders William Faloon and Saul Kent, who expressed interest in providing a grant to assist the Institute in getting the clinical trial up and running. “After we had received the necessary federal approvals to start the trial, we had no funding,” he says. “It was clear to me that Life Extension’s founders had been studying the background of this trial and were very

Funding Research That May Save Your Life

The Life Extension Foundation was established in 1980 with the mission to uncover scientific methods to slow and reverse aging, prevent and treat degenerative disease, and eventually enable humans to achieve indefinitely extended life span. People join the Life Extension Foundation in order to obtain the latest information that can help to extend their healthy life span. Many of the medical therapies we take for granted today, such as using low-dose aspirin to prevent heart attack, were first recommended (in 1983) by the Life Extension Foundation. Life Extension is helping to fund numerous cancer research projects today (including Dr. Maharaj’s work) because the incidence of this insidious disease spikes sharply as humans age.

well informed. After we met, I could see their commitment to wanting to help patients with cancer. They understand that the majority of treatments we have right now are simply not very effective, and this represents a possible path to a new approach in treatment.”

Dr. Maharaj says the Life Extension grant allowed the South Florida Institute to start screening healthy young volunteers for the trial. While it is obviously too early to chart results, he hopes that these clinical trials will one day lead to an effective, nontoxic treatment that can provide clear clinical benefit to cancer patients who can no longer benefit from conventional treatments. The Institute is also planning to participate in other clinical studies utilizing stem cells in the arena of regenerative medicine for cardiac repair, neurological repair, and also for diabetic patients.

It is a dynamic field of study for Dr. Maharaj, who urges individuals to have some of their own stem cells collected and stored when they are young and healthy, both from a future therapeutic point of view and being able to take advantage of the developments in genetics. “Ultimately, we may be able to predict cancer and other future diseases from your own stem cells,” he says. For Dr. Maharaj, all of this fits in neatly with Life Extension’s model. “To me, the term life extension means prolonging an individual’s life with good *quality* of life,” he concludes. “And that is precisely what we are trying to do.”

For more information, visit the website of the South Florida Bone Marrow Stem Cell Transplant Institute at www.bmscti.org. ●

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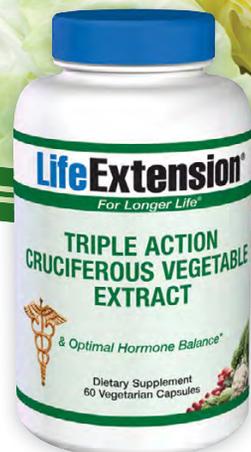
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Is Soy Safe?

Busting the Myths of a Nutritional POWERHOUSE

Rarely has a nutritional source gained such rapid acceptance *and* drawn the kind of hostile scrutiny focused on soy. No sooner did the FDA take the highly unusual step of allowing a health claim to be made for soy as a *food* in 1999,^{1,2} than it came under attack by a vocal minority of “concerned citizens”—some of whom were found to represent a narrow segment of the food industry threatened by soy’s profits.³

Thanks to their efforts, considerable misinformation now contaminates the discussion of soy’s real impact on health. Instead of enjoying the broad range of benefits, many aging individuals are unnecessarily fearful of consuming soy products.

The good news is that the popularity *and* “controversy” surrounding soy have resulted in considerable clinical study and research, giving rise to a wealth of scientific literature that validates soy’s health-promoting potential.

In this article, you will find out how soy became the subject of controversy—and why it shouldn’t be. You will discover the latest findings on soy and its components, including *isoflavones* and *soy protein*. You will also learn how just **15-20 grams** of soy per day, (or **50-90 mg** of soy isoflavones) can operate at the cellular level to provide a formidable defense against cardiovascular disease, numerous forms of cancer, osteoporosis, and menopausal symptoms.⁴ > >



Soy and Estrogen: The Real Story

At the center of the controversy surrounding soy is the “estrogen-like” molecular profile of some soy-based compounds—and whether they increase the risk of certain hormone-dependent cancers and other adverse effects associated with hormonal imbalance.

Soy contains antioxidant polyphenols (plant-based compounds) known as **isoflavones**. Isoflavones are considered “phytoestrogens” or “dietary estrogens” because of their molecular similarity to estrogen as *estradiol* (17- β -estradiol), the female sex hormone. The ability of isoflavones to “mimic” some of estrogen’s effects has led many doctors and scientists to characterize isoflavones as “weak estrogens.”

This is incorrect, according to Dr. Mark F. McCarty, an internationally recognized expert in soy isoflavones.⁵ Advances in our understanding of how the body responds to estrogen (and estrogen-like compounds) explains why.

Estrogen exerts its influence upon cells directly through the presence of *estrogen receptors*. Until relatively recently, only one receptor was known to exist, now called the estrogen receptor alpha or **ER-alpha**. Overexpression of ER-alpha has been implicated in a variety of cancers in humans, including breast cancer, ovarian cancer, endometrial cancer, and colon cancer.⁶⁻⁹

In the late 1990s,^{5,10} a second estrogen receptor was discovered, now known as **ER-beta**. Expression of this receptor appears to *counteract* many of the cancer-causing activities of ER-alpha.¹⁰

As Dr. McCarty points out, **genistein**, one of the most abundant isoflavones in soy, is a highly potent activator of **ER-beta**. Critics of soy regard isoflavones’ action on estrogen receptors as the source of concern, *without recognizing there is more than one type of estrogen receptor in the body, and that they exert very different effects*.

This highly *selective* mode of action explains why soy isoflavones promote beneficial estrogen-like effects in tissues where the ER-beta receptor predominates, but do not provoke the harmful effects of conventional estrogen replacement therapy in tissues where the ER-alpha receptor predominates.

For example, soy isoflavones have been shown to exert positive effects in tissues such as bone, vascular endothelium (blood vessel lining), and breast cells without the negative effects in those and other tissues such as liver and uterus, where side effects of estrogen therapy have been observed.⁵ In fact, in breast tissue possessing both estrogen receptor types, ER-beta is now known to exert a restraining influence on cell



proliferation stimulated by estrogen at ER-alpha sites, reducing the risk of breast cancer.¹⁰ This balance helps to explain why soy isoflavones do not increase breast cancer risk despite their estrogen-like activity.⁵

Dozens of epidemiological (population-level) studies document the broad array of health benefits associated with a high-soy diet.¹¹⁻¹³ Diets rich in soy isoflavones are associated with lower rates of cardiovascular disease, osteoporosis, cancer, and obesity-related complications such as type 2 diabetes.¹⁴⁻¹⁶

Soy isoflavones have relaxing effects on blood vessels, mediated by their influence on nitric oxide synthase (NOS), as well as powerful antioxidant effects, which together explain their potential for treatment and prevention of hypertension and stroke.^{11,17} Acting via yet another distinct mechanism, the isoflavones modulate signaling in pathways that control the interaction of oxidant stress with inflammation, leading to upregulation of detoxifying and antioxidant defense genes.¹⁸

The cumulative weight of the evidence for soy’s health benefits led to the remarkable decision by the FDA to approve a food-labeling health claim for products containing 25 grams of soy proteins in the prevention of coronary heart disease in 1999.¹⁴

This claim was based on a wealth of clinical trials as well as epidemiological data showing that high soy isoflavone intake could reduce LDL cholesterol, inhibit pro-inflammatory cytokines, reduce cell adhesion proteins, inhibit platelet aggregation, and improve blood vessel reactivity.¹⁹ Many nations throughout the world have now similarly endorsed soy products based on these data.¹⁰

Dr. Mark Messina, a noted soy expert at the Department of Nutrition at the Loma Linda University School of Public Health, has summarized soy's remarkable benefits and provides specific recommendations on optimal soy intake. Messina suggests, based on the totality of available data and practical dietary standards, that aging individuals should ingest **15-20 grams** of soy per day, including **50-90 mg** of isoflavones—recommendations that have been echoed by other researchers worldwide.²⁰ He adds that an intake of **25 grams per day** of soy protein can be specifically used for cholesterol reduction.

Protection from Cardiovascular Disease

Soy products, both soy protein isolates and soy isoflavones, induce *profoundly* beneficial effects on the human cardiovascular system. Early human studies showed that long-term intake of soy protein rich in isoflavones could improve blood lipid profiles, at least in part by increasing expression of receptor molecules that take up LDL cholesterol.²¹ In fact, soy protein and isoflavones have *universally* been shown to lower LDL cholesterol and triglycerides, while some studies have also documented increases in beneficial HDL cholesterol as well.^{22,23} Along with phytic acid, another soy component, soy isoflavones significantly lower homocysteine levels and positively influence other biomarkers of cardiovascular disease risk.²⁴⁻²⁷

These benefits are obtained through multiple mechanisms of action.^{28,29} The various constituents of soy favorably regulate expression of numerous genes, including those involved in:

- Processing cholesterol and other lipids
- Synthesis and degradation of the cholesterol molecule
- Efficient utilization of adenosine triphosphate or ATP, the body's fundamental unit of energy "currency."³⁰

These effects appear to be universal, benefiting young and the old, male and female, normal weight and obese.³¹⁻³⁴

Soy

- Soy proteins and isoflavones offer comprehensive health benefits through multimodal and complementary mechanisms.
- They act by diverse pathways to block oxidation, reduce inflammation, and favorably regulate gene expression.
- Soy isoflavones in particular function as estrogen-like compounds in myriad tissues, chiefly upregulating the recently-discovered estrogen beta receptors associated with healthy outcomes such as cancer inhibition and improved cardiovascular function.
- These effects provide multimodal protection against cardiovascular disease, cancer, obesity, diabetes, osteoporosis, and many other conditions associated with aging or poor dietary habits.
- A flurry of "anti-soy" publicity in the late 1990s drew increased scientific scrutiny that has since uncovered still greater health benefits from soy than originally thought.
- A diet with varied protein sources, including substantial amounts of soy and soy isoflavones, is both safe *and* preventive of degenerative disease.



As the central role of inflammation in cardiovascular disease emerged, scientists became interested in how soy consumption might affect the inflammatory process.²⁸ They found that short-term soy consumption reduces some markers of inflammation while *increasing* plasma levels of vessel-relaxing nitric oxide in postmenopausal women with metabolic syndrome, and improves signs of the metabolic syndrome in general.^{35,36} Soy protein also increases the activity of para-oxonase 1 (**PON1**), the natural antioxidant compound found in HDL cholesterol that prevents the inflammatory oxidation of cholesterol.³⁷ In a preclinical model, genistein inhibited the inflammatory control complex called **nuclear factor-kappaB** (NF-kB) and reduced expression of a molecule essential to production of atherosclerotic plaques.³⁸

Another factor that contributes to the risk of a cardiovascular event such as heart attack or stroke is the tendency of platelets to aggregate, or clump together, forming clots that can obstruct blood flow. Platelet aggregation is a complex, multi-step process involving a number of signaling molecules—and soy



isoflavones act to *reduce* the density of vital receptors for one such molecule, **thromboxane A2**, in direct proportion to the isoflavone concentration in blood.³⁹ Thromboxane plays a central role in potentially lethal blood clot formation.

Short peptides (protein fragments) in soy proteins are among those recently shown to act against **angiotensin-converting enzyme** (ACE), thereby helping to safely lower blood pressure.⁴⁰ Genistein inhibits the release of calcium within vascular smooth muscle cells, and helps to block constriction.⁴¹ These effects directly mimic those of many prescription blood pressure medications and, along with their direct influence on nitric oxide synthesis and other endothelial health factors, account for the additional vascular benefits conferred by soy products.^{42,43}

Several nutritional intervention studies in both animals and humans further indicate that consumption of soy protein reduces body weight and fat mass, in addition to the beneficial effects on lipid profiles.⁴⁴ The effect on blood lipid profile was recently shown to be dramatically enhanced by the addition of a prebiotic mixture to soy.⁴⁵ This study, conducted among a group of adults with high lipid levels, capitalized on the fact that intestinal bacteria can metabolize soy components to produce equol, a powerful lipid-lowering compound that many adults have trouble producing. The people on the prebiotic plus soy branch of the study experienced significant improvements in their lipid profiles not seen when either prebiotic or soy was taken alone.

Combating Metabolic Syndrome

The current epidemic of obesity and type 2 diabetes increases overall risk for cardiovascular disease and other metabolic complications. Soy components have direct benefits on several of the parameters that go awry in the development of metabolic syndrome. For example, soy proteins lower lipids, improve kidney function, and reduce urinary protein losses in type 2 diabetics with kidney disease.^{46,47}

Soy protein combined with isoflavones improves blood sugar control, reduces insulin resistance, and lowers serum lipids in diabetic patients, and can also reduce serum CRP levels and restore lipid profiles towards normal.⁴⁸⁻⁵¹ These effects may account for the observation that including soy in the diet can improve features of the metabolic syndrome in adults.³⁶

In a group of obese type 2 diabetics, replacement of animal-derived protein with soy protein helped improve hemoglobin A1c (a measure of long-term blood sugar control), reduced dependence on glucose-lowering drugs, lowered CRP levels, and triggered

significant weight loss.⁵² And soy isoflavones, particularly daidzein, can enhance gene expression of the vital metabolic regulatory protein PPARgamma, which helps cells absorb and use glucose.⁵³

Replacing animal-derived proteins with soy-based meals can lower body weight and fat mass, while reducing LDL cholesterol even more than would be expected from weight loss alone, and can improve body composition, increasing the ratio of lean body mass to fat.^{54,55} Even more exciting, soy product and isoflavone intakes were directly associated with a lower risk of developing type 2 diabetes in a group of overweight women!⁵⁶

Strength for Aging Bones

The intimate relationship between *osteoporosis*, which involves the loss of calcium from aging bones, and *atherosclerosis*, which involves the deposition of calcium into aging blood vessels, is growing rapidly clearer, and the connection involves the cellular signaling molecules known as *inflammatory mediators*.⁵⁷

Since soy products have proven value in reducing markers of inflammation and preventing atherosclerosis, it follows that they should help prevent osteoporosis. For example, soy isoflavones have the ability to interfere with production of the “all-purpose” inflammatory cytokine interleukin-6 (IL-6).⁵⁸ IL-6 levels rise with advancing age, particularly after menopause and andropause, corresponding to a drop in sex hormone levels. This rise in IL-6 is associated with many of the chronic conditions of aging, including osteoporosis.⁵⁸

By blocking IL-6 production, along with numerous other pathways, soy protects against age-related bone loss (resorption).⁵⁹ Animal studies show that soy extracts and purified genistein act via different mechanisms to modulate gene expression in bone tissue, resulting in beneficial three-dimensional changes in bone structure through reduced activity of multiple inflammatory pathways.^{60,61}

In humans, the effects are no less dramatic. Soy isoflavone supplementation decreases bone resorption in postmenopausal women.^{62,63} One year of supplementation with soy protein also increased bone formation.⁶⁴ The combination of enhanced new bone formation and reduced bone resorption may contribute to benefits in preserving bone mineral density, the chief marker of the progress of osteoporosis.⁶⁵ Notably,



Animal studies show that soy extracts and purified genistein act via different mechanisms to modulate gene expression in bone tissue.

this effect is not limited to post-menopausal women: a 2008 study demonstrated a positive change in bone mineral density even in younger women, implying a powerful preventive effect.⁶⁶

Many of these effects can be traced to the isoflavones' estrogen-like qualities and are borne out in multiple large epidemiological studies as well as in smaller clinical trials and laboratory research.¹⁶ Contrary to fears expressed by some early researchers and vocal critics (See SIDEBAR), soy isoflavones do not produce breast tissue changes or modify breast density on mammography. In fact, they may actually help *reduce* fibrocystic disease of the breast.^{67,68}

The Soy “Controversy”: Separating Myth from Fact

A relatively small group of outspoken critics have fueled the debate over the safety of soy products, many of whom have links to industries threatened by soy's widespread acceptance.³ Here in a nutshell are their specious claims—and why they don't hold up:

“Soybeans contain ‘anti-nutrients.’”³ In raw, unprocessed form, this is true of soybeans. In fact *all* raw, unprocessed beans contain a variety of enzymes and other biomolecules that can interfere with digestion and absorption of other nutrients. Soybeans are no different. Growers and processors are acutely aware of this as they develop the most nutritional cultivars of this universal food source.¹⁰⁴⁻¹⁰⁸ The way around the “problem” of anti-nutrients is simple: don't eat raw soybeans, and be sure to eat a diet with varied sources of protein (good common sense). In fact, soy protein has been used successfully in treating mild and moderate protein-energy malnutrition in some of the world's sickest children.¹⁰⁹

“Soybeans cause thyroid dysfunction.” Based on a 1960 article describing the occurrence of goiter (thyroid swelling) in a single infant on a pure soy diet, soy opponents extrapolated—and *exaggerated*—this risk to the entire population.^{3,110} Isoflavone molecules in soy do inhibit an enzyme involved in thyroid hormone synthesis,¹¹¹⁻¹¹⁴ but that has not translated into poor thyroid function in otherwise healthy individuals (those without pre-existing thyroid disease and who have adequate iodine intake).¹¹⁴⁻¹¹⁷ Again, the bottom line here is not to get all your nutrition from soybeans (or any other single source), and if you have a known or suspected thyroid disorder, get frequent thyroid function tests.

“Isoflavones disrupt sex hormones.” Phytoestrogens by their very nature influence sex hormones, but those in soy chiefly affect ER-beta estrogen receptors, which have been shown to *inhibit* the detrimental effects associated with hormonal imbalance.⁵ Frightening tales of accelerated puberty in children caused by soy are largely based on a single, small 1986 study showing a weak correlation between exposure to soy infant formula and premature breast development in girls.¹¹⁸ That study's own authors questioned the validity of the relationship, and the medical establishment's own American Academy of Pediatrics has determined there is “*no conclusive evidence from animal, adult human, or infant populations that dietary soy isoflavones may adversely affect human development, reproduction, or endocrine function.*”¹¹⁹

“Soy causes cancer.” Again, the effects of isoflavones on hormonal function are clear. It made scientific sense early on to raise the question of whether they might adversely affect hormone-dependent cancers. A handful of studies from the mid-1990s showed cellular changes of the kind that can precede cancer—though *none* showed an actual increase or production of new cancers.^{120,121} Since then, the discovery of ER-beta estrogen receptors, their cancer-inhibiting effects, and the preferential influence of isoflavones on these receptors—in addition to *extensive* human epidemiological and clinical studies—provide an extremely favorable profile for soy isoflavones with regard to cancer.^{5,75}

Soy Protein and Isoflavones: Potent Cancer Prevention

Despite the early and isolated concerns regarding a possible link between soy products and cancer, there is now strong evidence that soy provides powerful cancer prevention. Isoflavones' powerful multitargeted modes of action operate across numerous pathways to fight cancer on multiple fronts simultaneously.⁶⁹ This allows reduction in cancer risk at every phase of its progression. Favorable modulation of gene expression is especially important in achieving this comprehensive effect.^{58,70} Exciting recent work shows that *equol*, the intestinal metabolite of soy isoflavones, has potent anti-cancer effects as well.⁷¹





Breast Cancer

Early studies from Japan showed that frequent consumption of soy-based miso soup and isoflavones was associated with a reduced risk of breast cancer.⁷² A recent prospective study in 5,042 female breast cancer survivors in China, who were followed for a median of 3.9 years, found that consumption of isoflavone-rich soy foods was significantly associated with a 29% lower risk of death and a 32% lower risk of cancer recurrence.⁷³ Additional evidence from epidemiological, animal, cell culture, and human studies has accumulated showing that isoflavones are promising agents for breast cancer chemoprevention.^{74,75} Daidzein, a soy isoflavone, adds protective effect to the chemotherapy agent tamoxifen in animal studies of mammary cancer.⁷⁶ Some of this effect may be explained by soy protein's ability to alter signaling pathways involving the hormone receptors, and some by its ability to inhibit cell growth.^{77,78} Genistein is unique among flavonoids of interest in cancer prevention in that it has both potent estrogen-like *and* growth inhibitory effects on breast cancer cells.⁷⁹

Increased isoflavone intake also directly influences sex hormone concentrations and menstrual cycle length in women, effects with the potential for reducing breast cancer risk.^{80,81} And recent exciting work demonstrates that genistein interacts directly with the notorious HER2 cancer-causing gene, inhibiting its activation by cellular machinery and preventing cancer promotion.⁸²

Prostate Cancer

Prostate cancer, like breast and uterine cancer, may be stimulated or worsened by sex hormones. Soy isoflavones, with their partial stimulatory/partial inhibitory effects, act by multiple pathways to reduce prostate cancer risk.^{83,84} Genistein from soy reduces signaling between early prostate cancer cells and helps prevent their progression.⁸⁵ Genistein sensitizes cancer cells to apoptosis induced by chemotherapy drugs, and blocks activation of NF-kappaB, which is responsible for the connection between inflammation and cancer development.^{78,86} Related studies show that isoflavone supplementation may decrease prostate cancer risk both by reducing NF-kappaB activation and by decreasing levels of damaged DNA strands, an early step in cancer development.⁸⁷ Several soy protein components protect against chemically-induced prostate cancer in rats, and isoflavones specifically inhibit synthesis of inflammatory prostaglandins in human prostate cancer cells and in living patients.⁸⁸⁻⁹⁰

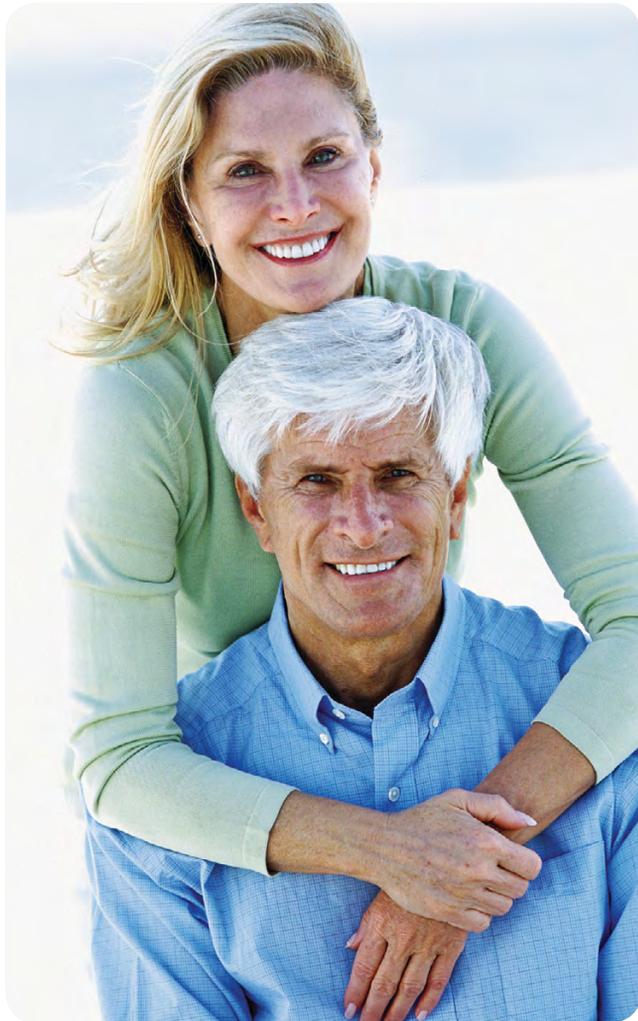
An entirely different mechanism of genistein in prostate cancer is the downregulation of sex hormone receptors in prostate tissue, making the cells less responsive to stimulation and cancerous growth.^{91,92} Other cellular signaling systems are also disrupted by genistein, further reducing cancer risk.⁹³ And in men already diagnosed with prostate cancer, high-dose soy supplements produced an overall decrease in the tumor marker prostate-specific antigen (PSA), which rose alarmingly in control patients.⁹⁴ Similarly,

genistein alone is known to arrest the cell cycle and induce cell death by apoptosis, as well as preventing metastatic spread of already-established prostate cancers.⁸⁴

Colon Cancer

Soy derivatives reduce aberrant crypt foci, the early abnormal changes in intestinal lining cells that may herald the onset of colon cancer.⁹⁵ And the combination of genistein with indole-3-carbinol, derived from cruciferous vegetables, dramatically enhanced cell death by apoptosis in human colon cancer cells.⁹⁶ A prospective study published in 2009 demonstrated that consumption of soy foods may reduce the risk of colorectal cancer in postmenopausal women.⁹⁷

As with the other cancers, colon cancer prevention by soy is accomplished through multiple pathways. Genistein, for example, inhibits intercellular signaling by insulin-like growth factor-1 (IGF-1), with the end result of blocking cancer cell proliferation and inducing apoptosis.⁹⁸



Slowing Menopause with Soy

Menopause produces a host of changes in a woman's body as her natural estrogen levels subside—changes that may be, at least to some extent, more safely slowed by soy isoflavones than estrogen replacement therapy. The decline in cardiovascular function that has its onset at menopause is one such change. Soy protein and isoflavones exert favorable effects on endothelial function in postmenopausal women.⁹⁹ A low-glycemic index diet fortified with soy protein and phytosterols has been shown to reduce total and LDL cholesterol and triglycerides, and improve HDL ratios, while tending to normalize blood pressure, in a group of postmenopausal women.²⁷

Body composition changes after menopause include increase in fat below the skin and in the abdomen, as the normal effects of estrogen fade. These changes were prevented by a daily soy protein supplement over a three-month period in a group of postmenopausal women.¹⁰⁰ A similar study showed that six months of supplementation with soy protein plus isoflavones produced modest favorable effects on body composition in postmenopausal women.¹⁰¹ And many of the uncomfortable physical effects of menopause, such as hot flashes, respond well to daily doses of isoflavones, particularly genistein.¹⁰²

Summary

Soy derivatives, particularly *soy proteins* and the *isoflavones*, exert powerfully beneficial effects across multiple systems of the body. Despite popular misconception at the hands of a vocal group of detractors, soy protein's action on estrogen receptors gives them unique capabilities not found in drugs or other natural compounds. By preferentially acting upon estrogen receptors associated with cancer suppression, soy isoflavones can *reduce* cancer risk. Soy isoflavones demonstrate remarkable abilities to improve cardiovascular function through multiple pathways in cardiac tissue and in blood vessel linings. Soy proteins and isoflavones also act as powerful antioxidants¹⁰³ that modulate cellular function through control of gene expression and cell signaling pathways. These effects in turn allow them to help quench inflammatory stimuli that both contribute to and result from modern scourges such as obesity, type 2 diabetes, and metabolic syndrome. ●

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

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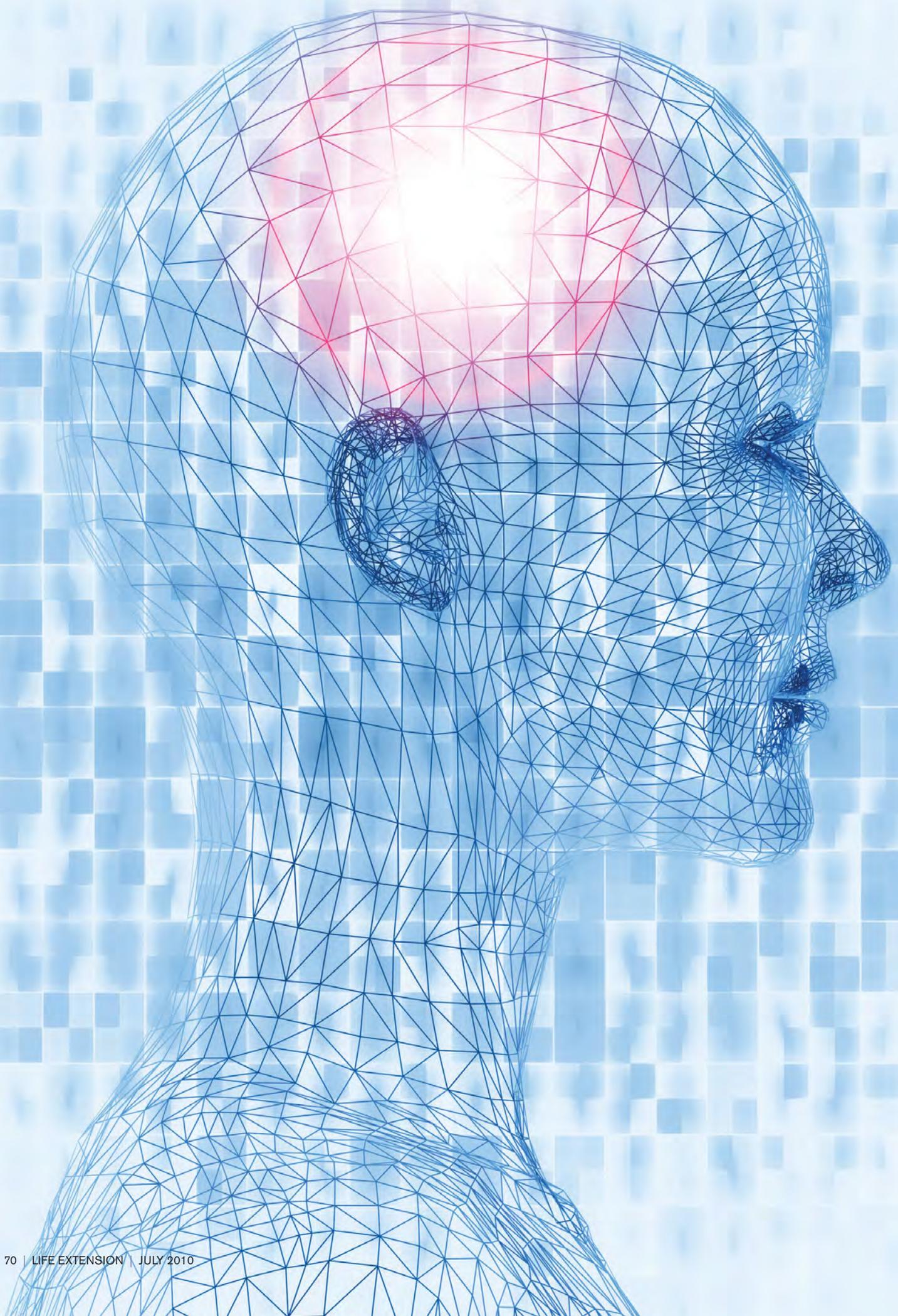
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Halt the Stealth Threat of Parkinson's Disease

Advanced Protection for the Aging Brain

BY JULIUS GOEPP, MD

Although the exact *causes* of Parkinson's disease (PD) continue to elude scientific understanding, the single most important risk factor for its development and progression is well known: aging.¹

The first subtle signs can manifest in victims as early as age 50. The risk of onset then follows a steady rise, with incidence increasing *dramatically* at age 60.^{2,3} Slowed movement, tremors, mild cognitive impairment, and difficulty standing up or maintaining balance are PD's harbingers, as the central nervous system commences a profound, irreversible decline. Over time, these early symptoms may progress to near-total immobility, accompanied by mood and personality disorders, loss of sensory function, dementia, and death.⁴

To date there is no known cure. Fortunately, great strides have been made in research into the prevention and improvement of parkinsonian symptoms *without* drugs. Natural interventions have been shown to counter aspects of the pathological aging process that accelerate the senescence and death of neurons under attack from PD.^{5,6}

In this article, we detail the underlying physiological mechanisms implicated in Parkinson's disease, along with a range of safe, low-cost, readily available compounds most **Life Extension**® members already take that may halt the threat of Parkinson's *before* it takes hold. > >



Progressive Degeneration

Parkinson's victims undergo a progressive, deadly degeneration of the *basal ganglia*, a compact cluster of neurons in the brain associated with motor control and memory.⁷ Housed within this structure are the *substantia nigra*, whose cells release the neurotransmitter **dopamine**.

The incremental but relentless destruction of these *dopaminergic* neurons drives the devastation seen in Parkinson's victims.⁸ Dopamine plays a central role in a constellation of mental and physical functions, including:

- Voluntary movement
- Behavior and cognition
- Learning
- Motivation
- Sexual gratification
- Working memory
- Sleep
- Mood
- Attention

Every one of these functions comes under attack as Parkinson's disease (PD) kills off successive layers of cortical brain tissue.

Conventional medical treatment understandably aims to elevate and restore optimal dopamine levels. The most common approach is to use a drug such as levodopa, which is converted into dopamine in tissue. Unfortunately, only a small fraction of this conversion actually takes place in the brain, resulting in excessive

dopamine levels elsewhere in the body and accounting for troubling side effects, including uncontrolled movements, nausea and vomiting, and depression.^{5,9}

The good news is that the pressing need for a broader array of effective preventive measures, along with additional options to improve quality of life in PD sufferers, has given rise to a steadily growing body of sound research.^{10,11}

Energy Management, Inflammation, and Nerve Damage

The human brain requires *enormous* blood flow to support its intensive metabolic and neurological activity. Fully *one-fifth* of the blood pumped with each cardiac contraction goes to the brain. Accordingly, the brain must manage the resulting flow of energy and oxygen with high efficiency or sustain potentially severe oxidative damage generated by excess free radical activity.

As it happens, neuronal tissue is highly *vulnerable* to free radical damage over time. This is now known to be one of the underlying causes of death for the dopaminergic cells that control movement.^{7,12,13} A primary contributor to this oxidative stress is *mitochondrial insufficiency*, the inability of the intracellular "furnaces" known as *mitochondria* to effectively manage energy flow, resulting in an excessive production of oxygen free radicals.^{8,14}

Oxidative damage in turn leads to adverse inflammatory alterations in brain tissue.^{15,16} The resulting domino effect (oxidative stress = inflammation =

additional oxidative stress = more inflammation, and so on) is especially destructive to the vulnerable dopamine-producing cells in the substantia nigra.¹⁷

While the inflammatory cascade characteristic of PD appears to be both progressive and inexorable, it is its very complexity that makes it a paradoxically attractive target for prevention. A *comprehensive* set of interventions has been identified that effectively neutralizes oxidative stress and disrupts inflammatory processes before they spiral out of control. This multi-faceted, multi-factorial approach has generated significant interest in the world of neuroscience today—and a growing body of exciting new research.^{6,18}

Creatine

Creatine, a nitrogen-bearing organic acid that helps shuttle energy into muscle tissue, is also crucial to overall cellular energy management. Its *deficiency* in the brain has been associated with nerve damage, leading researchers to explore its neuroprotective effects.¹⁹ Several animal models have shown creatine to be effective in preventing or slowing the progression of PD owing to its potent “pro-mitochondrial” biochemical activity.²⁰⁻²² As a team of influential Harvard neurologists noted in 2007, “*Creatine is a critical component in maintaining cellular energy homeostasis, and its administration has been reported to be neuroprotective in a wide number of both acute and chronic experimental models of neurological disease.*”²³

Results from the first clinical study of creatine in humans were published in 2006 by the Neuroprotective Exploratory Trials in Parkinson’s Disease (NET-PD) team at the prestigious National Institute of Neurological Disorders and Stroke (NINDS).²⁴

They studied 200 subjects who had had a diagnosis of Parkinson’s disease within 5 years, but who did not require medication for symptom management. Subjects were randomly assigned to receive creatine **10 grams per day**, the drug minocycline **200 mg per day**, or placebo for 12 months, while their scores on a standard PD rating scale were monitored.

Both performed well, though creatine showed a *substantial* edge in performance compared with minocycline. Tolerability of the treatment was **91%** in the creatine group and only **77%** in the minocycline group. This promising work was followed up in a 2008 study which provided further supportive data on creatine’s exceptional safety and tolerability.²⁵

These findings are especially heartening given that they were derived from studies in aging individuals who already had PD, *when much of the progressive damage to dopamine-producing (dopaminergic) cells had already been inflicted.* It seems likely that creatine

Parkinson’s Disease

- While its precise cause remains unknown—and there is no cure—aging is the single most important risk factor for Parkinson’s disease (PD).
- Symptoms manifest in PD victims as early as age 50 (even earlier in some cases). The risk of onset continues to rise with advancing age. Incidence increases dramatically at age 60.
- Slowed movement, tremors, mild cognitive impairment, and difficulty standing up are the early warning signs. End-stage PD is marked by dementia, near-total immobility, personality and mood disorders, and death.
- These are the result of multiple, interacting destructive processes triggered by oxidant stress, mitochondrial dysfunction, and inflammation.
- Together these processes selectively and irreversibly destroy vital movement-controlling cells deep in the brain, resulting in loss of control and gradual decline in movement and activity.
- Nutritional interventions acting through multiple mechanisms can slow or prevent the accumulation of brain cell damage that produces Parkinson’s disease.
- In particular, nutrients that enhance brain energy utilization, prevent mitochondrial dysfunction, protect against oxidant damage, and tame inflammation are among the leading contenders for anti-Parkinson’s therapies.
- The most promising of these include creatine, omega-3 fatty acids, coenzyme Q10, B vitamins (particularly B6 and pyridoxal-5'-phosphate), carnitine, lipoic acid, green tea extract, and resveratrol.



may offer superior benefits when used as a *preventive* and truly neuroprotective supplement. In the words of British neuroscientist Anthony H. Schapira, “Early dopaminergic support for the degenerating dopaminergic system per se provides significant long-term clinical benefit for PD patients,”²² leading to “a novel concept for neuroprotection, and that is *simply to treat early rather than delay*.”²⁶

Omega-3 Fatty Acids

Given the inflammatory cascade’s intrinsic role in PD, it is natural that scientists would turn to explore the anti-inflammatory effects of *omega-3 fatty acids*. Among their many beneficial characteristics, omega-3s happen to be the molecular precursors of inflammation-fighting substances the body uses in maintaining equilibrium between infection and inflammation. Further, their concentration in nerve cell membranes is known to decrease with age, oxidative stress—and in neurodegenerative disorders such as PD.^{27,28}

Latest Research: Vitamin B6 May Help Prevent Parkinson’s

A recent study reveals that inadequate dietary intake of vitamin B6 may increase the risk of developing Parkinson’s disease by 50%.¹¹⁵

Using a hospital-based, case-control study, scientists examined the relationship between dietary intake of folate, vitamin B6, vitamin B12, and vitamin B2 and the risk of Parkinson’s disease.

Two hundred forty-nine patients with Parkinson’s disease and 368 patients without neurodegenerative disease provided comprehensive information about their dietary history during the preceding month. After adjusting for other factors, low intake of vitamin B6 was associated with an approximately 50% higher risk of Parkinson’s disease.¹¹⁵

These findings dovetail with the results of a study published in *Neurology* in 2006, which reported that people who consumed 230.9 mcg or more of vitamin B6 daily had a 54% lower risk of developing Parkinson’s disease, compared with people who consumed 185.1 mcg or less per day.¹¹⁶

Vitamin B6 may help reduce Parkinson’s disease risk by decreasing plasma homocysteine, an amino acid that is potentially toxic to dopaminergic brain cells.

Researchers in Norway have presented convincing evidence of systematic omega-3 deficits in PD, Alzheimer’s disease, and autism, indicating a potential therapeutic role.^{29,30} Supplementation with the omega-3 docosahexaenoic acid (DHA) can favorably modify brain functions and has been proposed as a natural intervention for PD and Alzheimer’s management.³¹

Japanese scientists have shown that omega-3 treatment of nerve cells in culture prevents neuronal *apoptosis*, the programmed cell death that occurs in part as the result of inflammatory stimuli in the brain.³² Their work produced dramatically better results when treatment was introduced *before* the chemical stresses that induced apoptosis were imposed, leading them to conclude that “dietary supplementation with [omega-3s] may be beneficial as a potential means to delay the onset of the diseases and/or their rate of progression.”

Canadian researchers took this work to the next level in a study of mice given omega-3 supplementation before injection with a chemical that produces PD.³³ The mice were fed either a control or a high omega-3 diet for 10 months prior to injection. Controls exhibited rapid loss of the dopaminergic cells in the substantia nigra and dramatic decrease of dopamine levels in brain tissue. These effects were prevented *entirely* in the omega-3 supplemented animals!

Researchers also demonstrated actual changes in PD symptomatology in a study of monkeys.³⁴ In this study, one group of animals was first treated with the PD drug levodopa for several months before being given the omega-3 DHA, while a second group was pre-treated with DHA before being started on levodopa. The researchers’ conclusion? “DHA may represent a new approach to improve the quality of life of Parkinson’s disease patients.”³⁴





Summarizing progress in omega-3 prevention of PD in late 2008, a leading nutritional scientist at the University of Tennessee, Knoxville concluded, “The literature reveals growing mechanistic evidence that cognitive function of the aging brain can be preserved, or loss of function can be diminished with docosahexaenoic acid, a long-chain omega-3.”³⁵

CoQ10

The strong connection between defects in mitochondrial energy management and its related oxidative stress have led neuroscientists to explore a number of supplemental compounds with energy-enhancing, antioxidant capabilities.³⁶⁻⁴⁰ Excellent laboratory and clinical evidence suggests that *coenzyme Q10* (CoQ10), also known as *ubiquinone* because of its omnipresence in living cells, is an outstanding contender in this field.⁴¹⁻⁴³ Deficiencies in this vital coenzyme produce disruptions in these processes that can have catastrophic consequences, contributing to many age-related neurodegenerative conditions.^{10,42,44,45} CoQ10 levels are known to be low in plasma and platelets drawn from patients with PD. A late 2008 study from England demonstrated for the first time that CoQ10 levels are low in vital regions of the brain itself in PD sufferers.³⁹

In 2002, neuroscientists at the University of California-San Diego launched a clinical trial of CoQ10 intervention in early-stage PD sufferers.⁴⁶ In this multicenter controlled study, 80 patients with early PD, not requiring treatment, were randomly assigned to placebo or to CoQ10 at dosages of **300, 600, or 1,200**

mg per day for 16 months or until disability required drug treatment. All subjects were scored on the standard Unified Parkinson Disease Rating Scale (UPDRS), on which higher scores indicate progressively worsening disease.

The results were compelling: placebo patients ended the trial with a mean change (worsening) of **11.99** on the UPDRS score. Low-dose CoQ10 supplemented patients increased by only 8.81, middle-dose patients by 10.82, and high-dose subjects by just **6.69**—a significant difference. All doses were well-tolerated. The authors concluded that “Coenzyme Q10 appears to slow the progressive deterioration of function in PD.”⁴⁶ Two years later the same researchers showed that doses of up to **3,000 mg per day** were safe and well-tolerated, though plasma levels reached a plateau at the **2,400 mg per day** level.⁴⁷

With the introduction of the superior **ubiquinol** form of coenzyme Q10 in 2006, far lower doses may very well provide these same benefits. Ubiquinol CoQ10 **absorbs** far better into the bloodstream than conventional ubiquinone.^{48,49}

Strong laboratory evidence for high-dose CoQ10 alone or *in addition to* levodopa therapy came in mid-2008 from a group exploring mitochondrial dysfunction and its role in PD.⁵⁰ They induced PD in rats by injection of a toxin known to create an accurate model of the disease.

Remarkably, after so much damage was already established, treatment with CoQ10 *prevented cell death, restored ATP levels, and improved motor function in treated animals!* The most dramatic effects were seen in rats given *both* levodopa *and* CoQ10 supplements—

the researchers concluded that the “addition of coenzyme Q10 in a high dose in early Parkinson’s disease could be recommended based on its proved disease-modifying role on several levels of the proposed mechanisms, including improvement of respiratory chain activity.”⁵⁰

Similarly encouraging results were recently reported from neuroscience labs at Cornell University, where researchers tested the effects of various doses of CoQ10 in food, finding significant protection against loss of dopamine.⁵¹ The researchers noted that their results “provide further evidence that administration of CoQ10 is a promising therapeutic strategy for the treatment of PD.”

Coenzyme Q10 appears to slow the progressive deterioration of function in Parkinson's disease.

The B Complex

Vitamin B6 in physiologically active form is the prerequisite for the production of dopamine. Deficiencies and disorders in **B vitamin** and **folate** metabolism have thus been implicated in many neurological disorders, including PD, and studies as early as the 1970’s were directed at demonstrating the effects of supplementation—initially with discouraging results.⁵²⁻⁵⁴

As our understanding of the role of the toxic amino acid *homocysteine* grew, however, more targeted and mechanism-based studies became possible. Homocysteine levels are closely related to folate, vitamin B6, and vitamin B12 status, and elevated homocysteine is found in cardiovascular disease and a variety of neurological and psychiatric disturbances, including PD.⁵⁵⁻⁵⁷ Paradoxically, levodopa treatment of PD can itself lead to *elevations* in homocysteine, potentially worsening the condition. This has prompted researchers to recommend B complex supplements in those taking the drug.⁵⁸

Definitive demonstration of the value of this approach came from Singapore in 2005, where neurologists supplemented PD patients who were stable and on their best doses of levodopa with *pyridoxine*, a common form of vitamin B6. Mean motor and activities of daily living scores improved significantly following supplementation, and deteriorated again when the supplements were stopped.⁵⁹

Low serum folate is also found in PD patients, especially those taking levodopa;⁵⁷ Canadian researchers have demonstrated that a folate/B12 supplement could decrease plasma homocysteine levels in patients taking levodopa.⁶⁰

A review paper in 2007 points to recent work with the active form of vitamin B6, *pyridoxal-5’ phosphate* (P5P), noting that a number of neurological disorders



including PD offer attractive therapeutic targets for this substance.⁶¹ Because of the association of elevated homocysteine and its deleterious effects with *both* PD itself *and* levodopa therapy, supplementation with folate, B6, and B12 is warranted.⁶²⁻⁶⁵

One note of caution regarding B6 supplements is if a PD patient is being treated with **levodopa** alone without the decarboxylase inhibitor **carbidopa**. Vitamin B6 may cause levodopa to convert to dopamine in the bloodstream before it crosses the blood-brain barrier (where it beneficially converts to dopamine in the brain). For safety's sake, it is best to take vitamin B6 supplements at a time of the day furthest from the last dose of a levodopa (L-dopa)-containing medication and to have one's blood tested periodically to make sure that excess dopamine does not accumulate in the bloodstream.

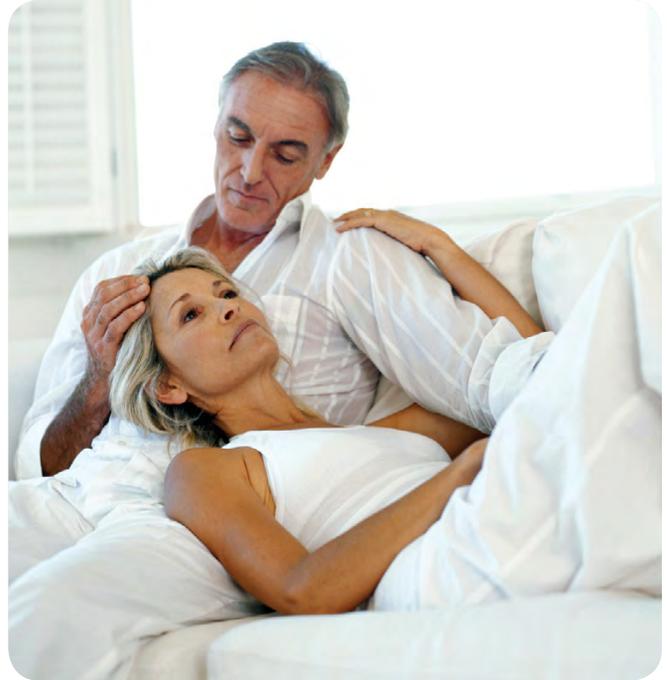
Carnitine

Carnitine serves as a *co-factor* in fatty acid metabolism—it helps to “shuttle” large fat molecules into the cellular powerhouses known as the mitochondria, where they are metabolized for energy. This makes carnitine a valuable weapon against PD.^{5,66} A small but burgeoning body of data indicates carnitine as a promising preventive for PD through its support of brain energy management.

Researchers at Mount Sinai Medical Center have successfully prevented experimentally-induced PD in monkeys by pre-treating them with **acetyl-L-carnitine** (ALC), a readily-absorbed form of the nutrient.⁶⁷ Italian researchers have led the way in studies of carnitine as a neuroprotective agent in the brains of methamphetamine users, who develop an acute form of brain injury resulting from the same basic mitochondrial destruction and free radical damage observed in PD.^{66,68} This work has been extended in similar studies by researchers at the US National Center for Toxicological Research.⁶⁹

In the most exciting recent development in this area of research, Chinese nutritional scientists in Shanghai explored the combination of ALC with another energy-related nutrient, **lipoic acid**, in preventing PD-like changes in human neural cells in culture.⁷⁰ They found that either nutrient, or the combination, applied for 4 weeks prior to a PD-inducing chemical, protected the cells from mitochondrial dysfunction, oxidative damage, and accumulation of the dangerous alpha-synuclein protein characteristic of PD.

Most notably, the combination of supplements was effective at 100- to 1,000-fold lower concentrations than were required for either acting alone—powerful evidence for a synergy that led the researchers to



conclude, “This study provides important evidence that combining mitochondrial antioxidant/nutrients at optimal doses might be an effective and safe prevention strategy for PD.”⁷⁰

Green Tea

According to internationally-noted Israeli neuroscientist Sylvia Mandel, “Tea consumption is inversely correlated with the incidence of dementia and Alzheimer’s and Parkinson’s diseases.”⁷¹ Green tea contains valuable antioxidant polyphenols known to be protective against a host of chronic and age-related conditions.

This has given rise to a tremendous scientific interest in green tea and its active compound **epigallocatechin gallate** or **EGCG** as a neuroprotectant in PD, especially because these compounds *penetrate* into brain tissue extremely well compared to many drugs.⁷²⁻⁷⁴ Israeli researchers showed in 2001, for example, that they could prevent the cellular changes associated with PD in mice by pre-treating them with either green tea extracts or EGCG ahead of inducing the condition by chemical injection,⁷³ work that has subsequently been repeated and extended in laboratories around the world.⁷⁵⁻⁸⁰ The Israeli team also demonstrated that green tea extracts can prevent activation of the inflammation-producing *nuclear factor-kappaB* (NF-kB) system in brain cell cultures triggered to develop PD-like changes.⁸¹ EGCG’s specific anti-inflammatory properties have been further shown to protect cultured brain tissue from the loss of dopami-



nergic cells as well.¹⁶ An entirely distinct component of green and black teas, *L-theanine*, is a unique amino acid that can cross the blood-brain barrier.⁸² Korean scientists have recently shown it may prevent the dopaminergic cell death characteristic of PD.⁸³

Another potential benefit of green tea extracts is their ability to sustain dopamine levels in ailing brain tissue, reducing the severity of symptoms.⁸⁴

The multiple beneficial compounds found in green tea form a combination therapy all their own, maximize their neuroprotective effects in PD and other neurodegenerative conditions.^{71,80,85-89}

Resveratrol

Since dopamine itself is an oxidant compound which can contribute to the early demise of its own neurons, scientists have studied the antioxidant potential of resveratrol to prevent this paradoxical destruction. They found that human neural tissue treated with dopamine underwent rapid cell death as a result of loss of mitochondrial function, but that exposing the cells to resveratrol for just one hour prior to dopamine treatment prevented cell loss and preserved mitochondrial function.⁹⁰ Canadian scientists showed in 2008 that they could prevent neuronal cell death caused by inflammation through the use of resveratrol.⁹¹

That anti-inflammatory action was further dramatically explored by Chinese researchers, who first administered a PD-inducing chemical to rats, and then gave them resveratrol orally each day for 10 weeks.⁹² They found that even as early as 2 weeks into supplementation, the diseased rats demonstrated

significant improvement in their movement disorders, and examination of their brains showed marked reduction in mitochondrial and dopaminergic cell damage. Remarkably, they also found a reduction in expression of the inflammatory markers cyclooxygenase-2 (COX-2) and tumor necrosis factor-alpha (TNF-alpha). They were led to conclude that “resveratrol exerts a neuroprotective effect on [a chemically]-induced Parkinson’s disease rat model, and this protection is related to the reduced inflammatory reaction.”

As with green tea extracts, it appears that resveratrol’s promise for PD prevention may reside in its multi-modal mechanisms of action, targeting oxidative stress, inflammation, and other cellular processes fundamental in regulating brain function.⁹³

Additional Interventions

The explosion of knowledge about the many inter-related probable causes of Parkinson’s disease in the past decade has led to a number of other nutrient molecules’ being explored for their neuroprotective, anti-parkinsonian potential. Vitamin D, for example, a known *neurohormone* with neuroprotective effects throughout the life span, has been shown to prevent many of the changes associated with PD in laboratory and animal studies; it is also known to be deficient in a large proportion of PD sufferers.⁹⁴⁻⁹⁹ Curcumin, a derivative of the spices turmeric and cumin, is a natural inhibitor of inflammation through its potent modulation of the inflammatory NF-kappaB system; it prevents chemically-induced changes in lab models of PD, and exerts significant neuroprotection.¹⁰⁰⁻¹⁰⁷ And the pineal hormone *melatonin*, an antioxidant in its own right, may help to preserve cells’ ability to make dopamine and to reduce accumulation of destructive alpha-synuclein proteins. It is also invaluable as a sleep aid for PD victims, who often suffer from distressing sleep disturbances.¹⁰⁸⁻¹¹⁴

Summary

While its precise cause remains unknown—and there is no cure—aging is the single most important risk factor for Parkinson’s disease (PD). Symptoms manifest in PD victims as early as age 50 (earlier in rare instances). The risk of onset continues to rise with advancing age. Incidence increases dramatically at age 60. Slowed movement, tremors, mild cognitive impairment, and difficulty standing up are the early warning signs. End-stage PD is marked by dementia, near-total immobility, personality and mood

disorders, and death. These are the result of multiple, interacting destructive processes triggered by oxidant stress, mitochondrial dysfunction, and inflammation. Together these processes selectively and irreversibly destroy vital movement-controlling cells deep in the brain, resulting in loss of control and gradual decline in movement and activity. Nutritional interventions acting through multiple mechanisms can slow or prevent the accumulation of brain cell damage that produces Parkinson's disease. In particular, nutrients that enhance brain energy utilization, prevent mitochondrial dysfunction, protect against oxidant damage, and tame inflammation are among the leading contenders for anti-Parkinson's therapies. The most promising among these include creatine, omega-3 fatty acids, coenzyme Q10, B vitamins (particularly B6 and pyridoxal-5'-phosphate), carnitine, lipoic acid, green tea extract, and resveratrol. ●

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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.

Super Ubiquinol CoQ10 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.

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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}

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

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Item #01426

Item #01425

Advanced Whole-Body Formula!

VITAMIN D LOTION

for Everyday Radiance

Aging may be measured in years, but when it comes to your skin, every second counts. Over the course of a normal day, the *epidermis*, the outermost layer of your skin, naturally loses 30-40,000 cells *per minute*.¹

As you get older, your skin replaces these dead cells more slowly and produces less natural oil, as wrinkles, lines, and areas of dry rough-looking skin begin to appear. Sun exposure, pollution, and stress also take a daily toll by heightening the activity of damaging free *radicals*.²

Now you can replenish these areas and preserve your skin's youthful radiance with new **Vitamin D Lotion** from Cosmesis®. Created by renowned dermatologist Gary Goldfaden, MD, this cutting-edge formula supplies rejuvenating factors directly to aging skin to maintain its healthy-looking, natural glow.

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Vitamin D Lotion contains a highly absorbable form of vitamin D3 called *cholecalciferol*.³ It readily penetrates the outer layer of your skin, nourishing dry areas by helping to lock in moisture before it's lost. This helps to offset the visible impact of your skin's gradually declining ability to renew itself.

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A proprietary blend of highly refined tea extracts (green, black, red, white) has been added to *augment* vitamin D's moisturizing and rejuvenating effect with polyphenols and antioxidants.⁴⁻⁶

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Item# 80136

To order **Vitamin D Lotion**, call **1-800-544-4440** or visit **www.LifeExtension.com**

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Natural Support for Cellular Energy Production

Optimized Carnitine with GlycoCarn®

Diminished cellular energy production is an inevitable consequence of aging. As adults mature, the cellular power plants known as the *mitochondria* become dysfunctional. The resulting slowdown in energy production manifests in numerous health problems.

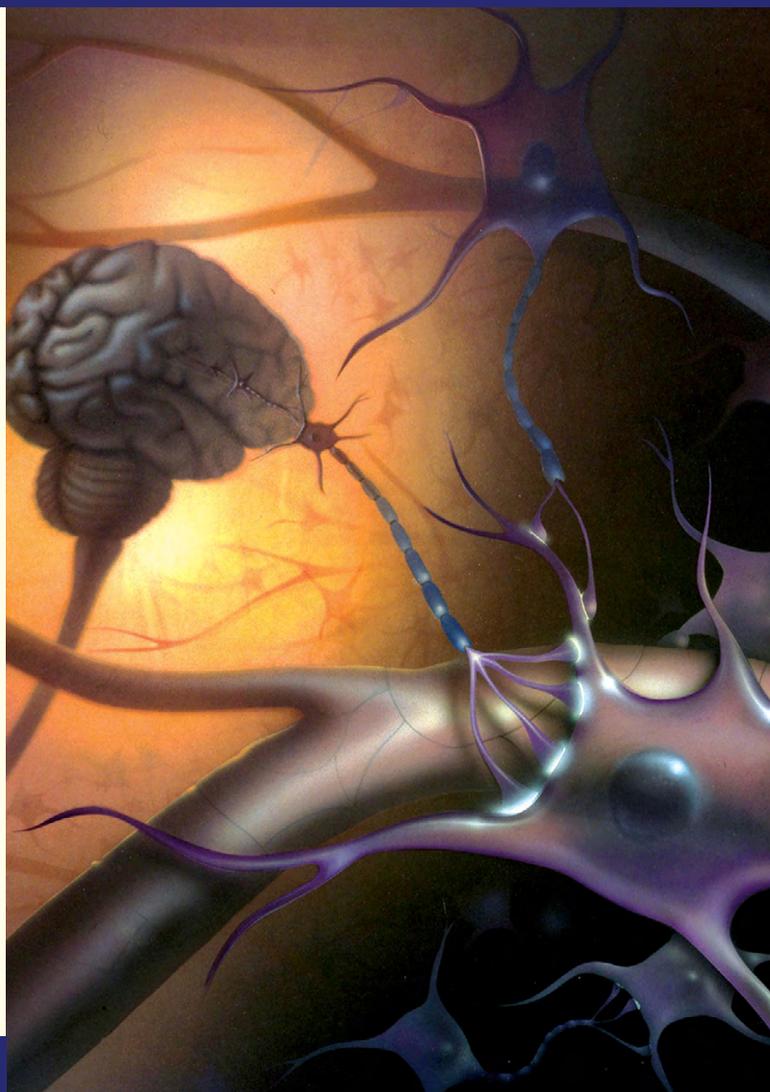
Nutritional researchers have discovered that the amino acid *carnitine* promotes the burning of fat for fuel in the mitochondria, thus promoting youthful levels of cellular energy production.* Researchers have now identified several optimized, next-generation forms of *carnitine* that not only help boost cellular energy production, but also may confer targeted benefits for the brain, heart, muscles, and central nervous system.

Optimized Carnitine with GlycoCarn® combines these advanced forms of carnitine—*acetyl-L-carnitine*, *glycine propionyl-L-carnitine*, and *acetyl-L-carnitine arginate*—in a single formula that provides balanced, broad-spectrum support for cellular energy production throughout the body.

Acetyl-L-carnitine readily crosses the blood-brain barrier to combat oxidative stress and promote energy production in critical brain and central nervous system tissues.¹ Acetyl-L-carnitine also supports healthy brain function by stimulating the release of acetylcholine and dopamine, two neurotransmitters that play vital roles in brain health and communication.*

Acetyl-L-carnitine arginate has an added molecule of arginine that enables it to augment the effects of acetyl-L-carnitine, promoting the growth of neurites that facilitate communication among nerve cells in the brain.²

GlycoCarn® is a patented form of *glycine propionyl-L-carnitine* that quickly penetrates into heart, endothelial, and muscle cells, with effects that range from protecting heart muscle from lack of blood flow to combating muscle fatigue by increasing muscle energy stores of glycogen.³



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ArginoCarn® Acetyl-L-Carnitine Arginate Di-HCl	300 mg
GlycoCarn® Glycine Propionyl-L-Carnitine HCl	300 mg

A bottle of 60 vegetarian capsules of **Optimized Carnitine with GlycoCarn®** retails for \$29. If a member buys four bottles, the price is reduced to only **\$19.58 per bottle**.

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Many creatine products are sold on the American market, but the most absorbable form is **micronized creatine monohydrate** imported from Germany. Life Extension offers three different **micronized** creatine supplements to provide energy-boosting effects to cells throughout the body.



Item # 00609

Each **Creatine Cap** supplies 500 mg of micronized creatine from 960 mg of creatine monohydrate. The suggested dose for healthy people is 2-4 capsules a day. A bottle containing 120 **Creatine Caps** (500 mg) retails for **\$10.95**. If a member buys four bottles, the price is reduced to **\$6.94** per bottle.

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Item # 00610

For those wishing to take high doses of creatine (5-10 grams a day), micronized creatine is available in powder form. A 500-gram bottle of micronized **Creatine Powder** retails for **\$29**. If a member buys four bottles, the price is reduced to **\$19.97** per bottle.

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Item # 00611

For those seeking creatine's ultimate benefits, Life Extension has devised a formula that provides 2000 mg of micronized creatine, 15 grams of whey isolate, and 3000 mg of glutamine in each scoop. The retail price for a 1000-gram bottle of **Creatine-Whey-Glutamine Powder** is **\$45**. If a member buys four bottles, the price is reduced to **\$32** per bottle.

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Contains milk, soybeans, and corn.

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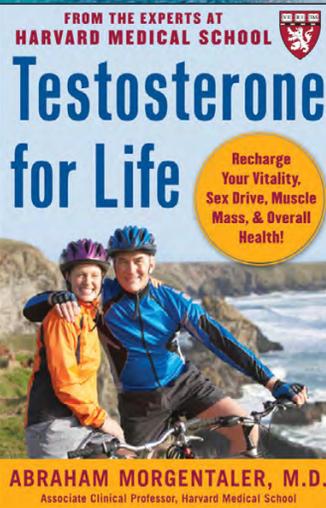
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WELLNESS PROFILE

Hamilton's recent book, *Force of Nature*, affords readers a look at the mental and physical philosophy behind facing any challenge in life. It's not just a fitness book, though, as Hamilton is quick to point out. "It's more a guide to life," he says. Which makes sense, when one considers that Hamilton has probably done a good deal more "living" than the average person: there is likely nothing quite like riding a 60-foot wave to make one feel alive. That said, the pages of his book—and of his life—are filled with tips that can be applied by anyone to improve their own quality of life, and to help them take on the challenges of being physically and mentally fit no matter their situation. Guest writers frequently drop into the book's pages and offer their own

advice on living well, among them Hamilton's wife Gabrielle Reece, a former professional volleyball player and model.

Healthy Fear

Before we can improve any aspect of our lives, Hamilton says, we first and foremost need to get back in touch with some pretty basic instincts. As a surfer, one of his primary instincts is fear—perfectly understandable when facing a fast-moving wall of water the size of a city block. But fear is an instinct that often must

also be overcome by someone facing something as seemingly non-threatening as going to a gym for the first time.

While Hamilton is frequently portrayed by the media as fearless, he says nothing could be further from the truth. "I'm actually the most scared when I'm facing that big wave." But fear is a powerful energizer, he points out: "It can make a mother suddenly able to lift up a car to save her children." In modern society, he feels, we're getting farther away from our basic survival instincts with each passing generation. "If it's hot we put

Hamilton believes the act of channeling our fears empowers us and brings us closer to being more fully "human."

on the air conditioning, if it's cold we put on the heater. We don't typically have to tap into raw emotions like fear that originally allowed us to flourish as a species, to escape being eaten so that we could survive to reproduce." People get jaded when they don't have to use those instincts on a regular basis. "They're still there, though. You can't just erase thousands of years of evolution."

Whether riding a 60-foot wave, or just making the decision to take control of one's life and embrace fitness, Hamilton believes the act of channeling our fears empowers us and brings us closer to being more fully "human."

Parenthood has made him think more about the things he does, but it hasn't really slowed him down—not yet, anyway. "Dying is easy; it's staying alive that's tricky," he laughs. "Life is a risk. That said, of course I'm going to back off from some of the *really* risky things. I don't want to leave



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my kids without a father.” On the other hand, Hamilton also wants his three daughters to know him as he is: “A big wave rider and adventurer. I want them to see what it does to me spiritually, the joy it brings me, so that they’ll want some of that in their own lives. Hopefully they’ll find their big wave, or whatever it is that wakes up their instincts.”

You Are What You Think

Hamilton says being physically active is an important component in focusing and utilizing those instincts, as well as for one’s overall health. “Obesity, diabetes, heart disease, lack of libido; they’re all related to lack of physical exertion, again resulting from not using our survival instincts.” In order to make the most of our lives, no matter what the activity, he believes it’s crucial to have a body that is going to cooperate, and therefore one that is kept in the best condition possible through regular exercise.

Some might feel Hamilton has an unfair advantage, especially after looking at the beautiful images in the book. After all, living in Hawaii, he has an entire ocean for a gym. But he says that doesn’t mean someone in, say, Kansas can’t obtain the same level of fitness. “The first and most essential part is making the decision; just to *think* about it. We are our own greatest inhibitors, and people don’t realize how powerful thought is. To think it is to do it.”

Hamilton mentions studies where one group of people did curls with weights, while another group just thought about doing them. “Twenty percent of the people who just thought about it had the same amount of gain as the people who lifted,” he says. “So a big part of it is the mental decision: I want to

be in shape, or be more flexible. When you want to do it, it becomes real, and you start to find ways to get there.” He also doesn’t buy the excuse that people are too tired to exercise after working a full day. “Nothing will make you more tired than sleeping. Energy perpetuates energy, and if you work out, you can do more,” he says.

He is convinced that people who work 11 hours a day will find they can actually be a lot more productive if they exercise for an hour, eat some good food for an hour and then rest for another hour, than they would be if they worked those 11 hours straight. “Half the time they’re in a delirium at the end of the day, and the last three or four hours are unproductive anyway.” He feels we have a tendency to be a “sacrificial lamb” society. But are we ultimately being more industrious? Just consider the number of unhealthy Americans, he says.

Laird Hamilton’s Supplement Routine

A lot of what I take has to do with how it makes me feel,” says Hamilton. “The more natural it is, the more unprocessed stuff in it, the better. Then you add things if you know you’re weak in certain areas. If you’re having problems with cramping, for example, then you take magnesium, or you use arnica or comfrey for injuries. It’s about analyzing specific needs at the time.”

A glance in Laird Hamilton’s supplement cupboard these days will reveal a somewhat reduced inventory. Hamilton says rather than swallowing 20 pills a day, he increasingly looks for a few pills that can cover several bases simultaneously. That said, he has a few mainstays that will always be kept on hand:

Brain Boosting Supplement: “I do notice a significant difference when using it,” he says. Among other ingredients, it includes ginkgo biloba, vinpocetine, and phosphatidylserine, as well as extract of the *Bacopa monniera* herb. These nutrients have been shown to work together to increase both short- and long-term memory processing.

Protein powder: A requirement for any strength training. “Within an hour after training, you’ve got to eat—otherwise your body starts eating itself,” says Hamilton.

Powdered vitamin C and powdered greens: “They’re just about the purest form, next to eating a cartload of fruit and vegetables.”

Maintaining the Machine

Hamilton maintains that examining one’s eating habits is the best place to start when tackling fitness. “If you want to be healthier, eat less. Next step, eat less, but with better quality food. Then add in the working out.” The idea is that conscientious and vigorous exercise can to a certain degree help mitigate other “sins,” meaning indulgences like drinking or eating pizza at 2 a.m. Hamilton emphasizes the word *vigorous*, adding that it’s important to also pay attention to what you’re doing when you exercise. “It’s easy to park a piece of fitness equipment in front of the television and say, ‘hey, look at me, I did the elliptical trainer for two hours.’ But your brain has been shut off for those two hours, and you gave yourself no neurological challenge.”

WELLNESS PROFILE

Far better than plodding along while watching CNN, he says, is to bring your heart rate up to a point where all you can think about is if you can sustain the amount of load for ten minutes and make it to the end. “You get far less benefit from exercising with a lower degree of mental engagement. One could almost call it anti-exercise.”

To get the brain involved, Hamilton suggests incorporating activities that use balance, such as standing on one foot on a wobble board while doing arm exercises. Since everyone’s body has one side that is stronger than the other, this also prevents unbalanced or disproportionate development. “When you have to think about what you’re doing so that you don’t fall over, you’re a lot more focused, and you get a lot more benefit.” He also avoids routines in his fitness, which he feels are the quickest route to boredom and burnout.

In the gym Hamilton is a big proponent of circuit training, which he says dials up the intensity of your workout, keeping the heart rate in a constant elevated state. Briefly, circuit training

involves moving quickly between workout stations, utilizing whatever is at hand. The beauty of circuit training is that you don’t actually even have to be in a gym. “Even if you only have a pair of dumbbells, you can create a routine that works your entire body.” In effect, you’re getting a cardio workout while you’re lifting weights. “If you apply yourself to this method of training, you’ll get much greater results in half the time.”

The vital thing, no matter what your choice of exercise, is to get some gratification from it. “Fitness doesn’t have to be a duty,” writes Hamilton in his book. “It should be a pleasurable part of your life, and it should include things that you do purely because you enjoy them.” But regardless of what activity you opt for, Hamilton stresses that intensity is key. “Go to any yoga class and you’ll see people there who aren’t even breaking a sweat, while you can barely touch your toes but you’re soaking wet. Who is getting more out of it? You, because you’re pushing yourself.”

Insurance Against Aging

Aside from helping him survive a 60-foot wave, Hamilton’s healthy lifestyle will, he hopes, enable him to enjoy many of the same things in his 70s that he did in his 20s. Nothing can completely negate that apprehension over growing older, however, no matter how active you are. “Age is a lot more of a decision than an actual reality,” he says. “Society sticks that age thing on professional sportspeople in particular. We are often thought to age out in our 30s, but nothing says it has to be that way.”

Still, Hamilton knows that when he’s in his 70s he can’t realistically expect to do the same physical activities, and with the same intensity, that he does today at 45—and he admits that part of him is in fact looking forward to slowing down, even if just a little. “In a way it will be a relief to put a lot of the young and foolish stuff behind me. But I’ll still be in good shape if I can help it.”

It’s easier to stay in good health if you maintain a regimen, rather than to try to recoup, he points out. “If you go completely out of shape, it’s a lot harder to get back into it. A car that stays running—even one that has seen a lot of miles—“works a lot better than one that has sat parked.” And staying in shape physically, he adds, also helps the mind stay in peak form.

Another key to staying mentally young is to keep challenging yourself with goals. “Ideally, you want goals that modify, or evolve, so you never really achieve them,” he says. “The peak of the mountain always moves a bit, so you’re constantly striving for it. You keep going at it one step at a time.” Too many times, he says, he sees people who set goals that they achieve at age 18. “And then what? They





spend the rest of their lives going to reunions and talking about that big high school game. Keep moving. Don't just bask in the things you have already achieved." He admits with a laugh that he still needs some work on that last aspect.

Supplemental Insurance

The foundation to good health, Hamilton states again, is good nutrition. He feels that if you honestly can't get to the gym, at least make an honest attempt to eat better, after taking the first step to eat less. It's that second step, however, that can turn out to be the biggest stumbling block. The old adage is that you are what you eat, but Hamilton prefers the more modern version: "Garbage in equals garbage out. Our food these days is filled with additives." He eats as close to the source (i.e., naturally) as possible, and he reads food labels. "The list of ingredients is surreal. If I can't pronounce it or don't know what it is, it's not going into my body," he says.

Organic produce and meat without any hormones or other additives form the backbone of his diet along with food that hasn't been irradiated. "The Europeans have banned the process, but the FDA has endorsed it for all kinds of foods," Hamilton writes in his book.

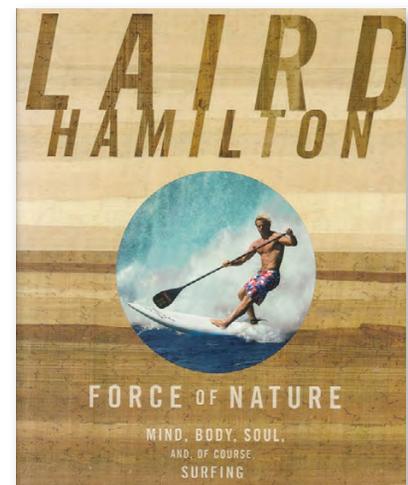
Somewhat ironically, fish is a staple for him; and sticking with his "as close to natural as possible" eating mentality, he consumes wild-caught fish whenever he can. "As a source of clean protein and omega-3s, it can't be beat," he states. What about increasing fears over mercury content in seafood? "I can't speak for anyone else, but I grew up eating a lot of raw fish, and I've had lots of blood work done; I've never had any evidence of mercury trouble. The positive, for me, outweighs the negative." For Hamilton, it goes back to that old fear instinct. He feels that while you of course have to be practical and keep informed of the possible dangers, if you were scared of everything, then you wouldn't do anything. "You'd be scared to leave

your house. But just the *thought* of being afraid of doing something is harder on your body than actually doing it."

No matter how healthy you eat, however, Hamilton is a big advocate of adding supplements to his daily intake (see sidebar). "Especially these days, since our food isn't as healthy as it used to be. So much of our fresh produce has been leached of its vitamin and mineral content," he says.

Of course one of the best things you can do to boost your health doesn't cost anything. "Be happy," advises Hamilton. "Learn how to enjoy life and have fun. It's clinically proven that positive people have stronger immune systems." And another supplement takes even less effort: "I read that it takes 43 muscles to frown, but only 17 to smile." And there is evidence that smiling relieves stress and produces endorphins. "Want to know the best part?" Hamilton asks. You can hear the grin in his voice: "Smiling is free." ●

For more information about *Force of Nature* (Rodale Books, 2008) or to contact Laird Hamilton, visit www.lairdhamilton.com.



Preserve Optimal BREAST HEALTH

Women today face a growing number of health issues, including the need to support DNA gene structure in the breast. Detrimental factors such as the aging process, along with the daily bombardment of damaging environmental estrogen-like compounds, demonstrate the need to support a woman's breast cellular structure.

A wealth of research shows that specific **plant extracts** can positively influence cellular status and remove some of the anxiety women face about maintaining a healthy balance of estrogens.

Two important metabolites that estrogen is broken down to in the body are: the **good 2-hydroxyestrone** and the **bad 16 alpha-hydroxyestrone**. Scientists have identified nutrients like **indole-3-carbinol (I3C)** that can tip the delicate balance of estrogens in favor of the good form.

Women seeking to proactively restore their youthful hormonal balance can now take a new, phytonutrient-based formula that helps support healthy estrogen activity and detoxification. Some of the active ingredients in the Breast Health Formula are:

- **Phytoestrogens** that function as *selective estrogen receptor modifiers* help block certain estrogen receptor sites on cells, thus preventing bad estrogen from exerting its harmful effects
- **Plant lignans** that boost beneficial enterolactone levels and favorably alter estrogen metabolism
- **Cruciferous Vegetable Extracts** (such as I3C) that effectively increase 2-hydroxyestrone while reducing undesirable 16 alpha-hydroxyestrone
- **Calcium D-Glucarate** to safely facilitate the removal of harmful estrogen from the body
- **Vitamin D** to restore healthy genetic regulatory switching to aging cells

Breast Health Formula provides nutrients that have demonstrated broad-spectrum support for preserving optimal breast health.

The daily dose of two capsules supplies:

Phytoestrogens (isoflavones) and Group-B Saponins (from 111.5 mg SoySelect® soybean (<i>Glycine max</i>) 70:1 extract)	34.5 mg
Indole-3-Carbinol (I3C)	100 mg
DIM (3,3-Bis (indolyl)methane)	14 mg
Calcium D-Glucarate	137.5 mg
Vitamin D (as cholecalciferol)	1000 IU
Enterolactone Precursors Proprietary Blend HMRlignan™ Norway spruce (<i>Picea abies</i>) standardized lignan extract (knot wood) and Secoisolariciresinol diglucoside from ActiFlax™ flax (<i>Linum usitatissimum</i> L.) lignan extract (seed)	25 mg
Iodine (as potassium iodide)	2 mg
Cruciferous Vegetable Proprietary Blend Broccoli (<i>Brassica oleracea</i> L.) GMO-free Extract [standardized to 4% glucosinolates] Watercress (<i>Nasturtium officinale</i>) 4:1 extract (leaf) Sawasabi™ Wasabi (<i>Wasabia japonica</i>) powder (rhizome) [standardized to 12,000 ppm Total Isothiocyanate]	550 mg

Item #00999



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The retail price for 60 vegetarian capsules of **Breast Health Formula** is \$34. If a member buys four bottles, the price is reduced to only \$22.50 per bottle. Contains soybeans, corn, and rice.

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Theralac's breakthrough technology **guarantees 100% LIVE DELIVERY** of its probiotics into the intestinal tract, something other probiotics can't do. Once in the gut, Theralac's **CLINICALLY PROVEN STRAINS** are stimulated into action by LactoStim® – a patented prebiotic that feeds probiotics. Rapid colonization of intestinal surfaces follows and intestinal comfort is restored.

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* CFU = colony forming units – a measure of live strength.

Theralac delivers 30 billion CFU into the gut.

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probiotics are killed. **Theralac's probiotics survive!** A patented gel formulation utilizes sodium alginate from seaweed and grape skin extract to protect Theralac's strains – a powerful dose of **30 billion CFU is delivered ALIVE** into the gut. Theralac is guaranteed through expiration and protected by US patents 7,122,370 and 7,229,818.

Clinically proven strains in Theralac:

- ▶ *L. acidophilus LA-1* (NCFM)
- ▶ *L. paracasei F-19*
- ▶ *L. rhamnosus LR-44*
- ▶ *Bifidobacterium lactis BL-34* (BI-04)
- ▶ *Bifidobacterium lactis Bi-07*

Lactobacilli work in the small intestine, Bifidobacteria in the colon. **ONE BOTTLE LASTS 10 WEEKS!**

To order, call **800-544-4440** or visit lifeextension.com. For more information visit theralac.com.



Strain	CFU per one capsule	*Daily Value
<i>Lactobacillus paracasei</i> (Strain F-19)	5 Billion CFU*	**
<i>Lactobacillus rhamnosus</i> (Strain LR-44)	2 Billion CFU	**
<i>Lactobacillus acidophilus</i> (Strain LA-1)	10 Billion CFU	**
<i>Bifidobacterium lactis</i> (Strain BL-34)	10 Billion CFU	**
<i>Bifidobacterium lactis</i> (Strain Bi-07)	3 Billion CFU	**
Lactoferrin (milk)	20 mg	**

*Daily Value from FDA
**Daily Value not established

Other ingredients: Cellulose, Sodium Alginate, Grape Skin Extract, Silica, IPK (Capsules), Lecithin + Rice Acid Lactate (patent pending), Magnesium Stearate (vegetable source)

Clinically proven strains
For references, go to:
www.theralac.com/tscs.aspx



Recommended 9 separate times in The Blaylock Wellness Report

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



Take the Theralac® challenge.
Try a bottle of Theralac® and if you do not believe it is the fastest-acting probiotic available, return the bottle and Life Extension will refund your money...no questions asked.

LifeExtension® Call **800-544-4440**
This product cannot be shipped to Canada.

theralac.com
Master Supplements
INCORPORATED

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



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

Five Easy Steps:

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

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

For Our Local Members:

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

Blood Testing The Ultimate Information

MOST POPULAR PANELS Life Extension Member Pricing

<p>○ COMPREHENSIVE PANELS MALE LIFE EXTENSION PANEL (LC322582) \$269 CBC/Chemistry Profile DHEA-S PSA (prostate-specific antigen) Homocysteine C-Reactive Protein (high-sensitivity) Free Testosterone Total Testosterone Estradiol TSH for thyroid function</p>	<p>○ DR. LICHTEN COMPREHENSIVE MALE PANEL (LICHTEN01M) \$668 MALE LIFE EXTENSION PANEL PLUS: IGF-1, FSH, LH, TSH, T4 free, Cortisol, Fasting Insulin, Sex Hormone Binding Globulin, and Hemoglobin A1C.</p>
<p>○ MALE HORMONE ADD-ON PANEL (LCADDM) Pregnenolone and Dihydrotestosterone (DHT) \$155 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 a testosterone metabolite that can affect the prostate, and the mother hormone that acts as a precursor to all other hormones.</p>	<p>○ DR. LICHTEN COMPREHENSIVE FEMALE PANEL (LICHTEN01F) \$668 FEMALE LIFE EXTENSION PANEL PLUS: IGF-1, FSH, LH, TSH, T4 free, Cortisol, Fasting Insulin, Sex Hormone Binding Globulin, and Hemoglobin A1C.</p>
<p>○ FEMALE LIFE EXTENSION PANEL (LC322535) \$269 CBC/Chemistry Profile DHEA-S Estradiol (an estrogen) Homocysteine C-Reactive Protein (high-sensitivity) Progesterone Free Testosterone Total Testosterone TSH for thyroid function</p>	<p>○ THE CBC/CHEMISTRY PROFILE (LC381822) OVER 40 PARAMETERS TESTED \$35 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 Calcium Sodium Potassium Chloride Phosphorus Iron</p>
<p>○ FEMALE HORMONE ADD-ON PANEL (LCADDF) Pregnenolone and Total Estrogens \$125 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 total estrogen status, and the mother hormone that acts as a precursor to all other hormones.</p>	<p>○ 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 Calcium Sodium Potassium Chloride Phosphorus Iron</p>
<p>○ THYROID ADD-ON PANEL (LCTHYROID) Free T3 & Free T4. \$55 LE strongly recommends adding these important thyroid tests to the Male or Female Life Extension Panels, especially for those interested in weight loss.</p>	<p>○ NOTE: CBC/Chemistry profile is included in the Male and Female Life Extension panels.</p>
<p>○ LIFE EXTENSION THYROID PANEL (LC304131) \$75 TSH, T4, Free T3, Free T4.</p>	<p>○ 24-HOUR URINARY PROFILES URINARY COMPLUS PANEL (LCM408) \$472.50 This 24-hour urinary steroid hormone profile contains a combination of 30 hormones and metabolites. This panel may be used to evaluate bio-identical hormone replacement therapy.</p>
<p>○ OMEGA SCORE™** (LCOMEGA) \$131.25 Provides valuable information on your risk of developing heart disease, sudden heart attack, and cardiac death. The Omega Score™ also includes your AA:EPA ratio, allowing you to determine and track a major factor in total body inflammation.</p>	<p>○ URINARY COMPREHENSIVE PANEL (LCM4001) \$360 This 24-hour urinary steroid hormone profile contains a combination of 17 hormones and metabolites. This panel may be used to evaluate bio-identical hormone replacement therapy.</p>
<p>○ MALE HORMONE RE-TEST PROFILE (LCRTM) \$275 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.</p>	<p>○ URINARY ADRENAL PROFILE (LCM4000) \$315 This 24-hour urine test measures a combination of 12 steroid hormones and metabolites synthesized by the adrenal cortex and may prove useful in the evaluation of endocrine disorders, stress, adrenal insufficiency, and more.</p>
<p>○ FEMALE HORMONE RE-TEST PROFILE (LCRTF) \$250 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.</p>	<p>○ URINARY ESTROGEN PROFILE (LCM4061) \$281.25 This 24-hour urinary steroid hormone profile contains a combination of 8 hormones and metabolites. This panel may be used to evaluate bio-identical hormone replacement therapy.</p>

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

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



MOST POPULAR SINGLE TESTS

Life Extension Member Pricing

HORMONES

- CORTISOL (LC004051)** \$39
This test is to measure adrenal function.
- ADRENOCORTICOTROPIC HORMONE (ACTH)* (LC004440)** \$91.50
A pituitary function test useful in evaluating adrenocortical dysfunction.
- DHEA-SULFATE (LC004697)** \$61
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 (LC073000)** \$128
This ratio is relevant as a risk factor for estrogen-sensitive diseases including breast and cervical cancers, osteoporosis, and recurrent respiratory papillomatosis.

CARDIAC RISK

- Lp-PLA2 (PLAC TEST)* (LC141275)** \$125
This test is used to aid in predicting risk for coronary heart disease, and ischemic stroke associated with atherosclerosis. Lp-PLA2 is a cardiovascular risk factor that provides unique information about the stability of the plaque inside your arteries.
- C-REACTIVE PROTEIN (HIGH-SENSITIVITY) (LC120766)** \$42
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.
- APOLIPOPROTEIN ASSESSMENT - (APO A1 + APO B + RATIO) (LC216010)** \$55
This ratio correlates with risk of coronary artery disease and is useful in the presence of borderline elevations of cholesterol.
- FIBRINOGEN* (LC001610)** \$31
High levels of this blood-clotting factor increase the risk of heart attack and stroke.
- HOMOCYSTEINE (LC706994)** \$64
Can indicate if you are likely to have a heart attack or stroke. Even if you take folic acid, you still may have dangerously high levels of this artery-clotting metabolic debris that can be lowered with high doses of TMG and vitamin B6.
- VAP™ TEST (LC804500) (UPDATED)** \$90
NEW LOW PRICE
The VAP cholesterol test provides a more comprehensive coronary heart disease (CHD) risk assessment than the conventional lipid profile. Direct measurements, not estimations, are provided for total cholesterol, LDL, HDL, VLDL, and cholesterol subclasses.
- MALE HEALTH**
- PSA (PROSTATE-SPECIFIC ANTIGEN) (LC010322)** \$31
Can provide an early warning sign for prostate disorders and possible cancer.
- FREE-PSA (INCLUDES TOTAL PSA)* (LC480780)** \$61
Recommended to determine if an elevated PSA is indicative of prostate cancer.
- GENERAL HEALTH**
- CELIAC DISEASE ANTIBODY SCREEN (LC334971)** \$99
NEW
This test measures deamidated gliadin IgA, tissue transglutaminase IgA, and serum IgA.
- VITAMIN D (25OH) (LC081950)** \$47
This test is used to rule out vitamin D deficiency as a cause of bone disease. It can also be used to identify hypercalcemia.
- VITAMIN C* (LC001479)** \$47
NEW
Levels of vitamin C are used to measure nutritional status.
- FOOD SAFE ALLERGY TEST (LCM73001)** \$174
This test measures delayed (IgG) food allergies for 45 common foods.

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

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

TERMS AND CONDITIONS

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

Signature of Life Extension Member

X

Life Extension Foundation Members only

MEMBER NO.

Male Female

Name

Date of Birth (required) / /

Address

City

State

Zip

Phone

Credit Card No.

Expiration Date /

Mail your order form to:

LifeExtension
NATIONAL DIAGNOSTICS, INC.

1100 West Commercial Blvd.,
Ft. Lauderdale, FL 33309

Phone your order to: 1-800-208-3444

Fax your order to: 1-866-728-1050

For non-member prices
call 1-800-208-3444

Products

AMINO ACIDS

Acetyl-L-Carnitine
Acetyl-L-Carnitine-Arginate
Branched Chain Amino Acids
D, L-Phenylalanine Capsules
GABA Powder
Glycine Capsules
Glycine Powder
Arginine Capsules
L-Arginine Free Base Powder
Arginine/L-Ornithine Capsules
L-Carnitine Capsules
L-Cysteine Capsules
L-Glutathione, L-Cysteine & C
L-Glutamine Capsules
L-Glutamine Powder
L-Lysine Capsules
L-Lysine Powder
L-Methionine 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
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
Overcast Polarized Sunglasses
Solarshield Sunglasses
Super Zeaxanthin with Lutein &
Meso-Zeaxanthin
(Plus Astaxanthin also available)
Vision Optimizer

FIBER

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

HAIR CARE

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

HEART HEALTH

Advanced Lipid Control
Cho-Less
D-Ribose Capsules
D-Ribose Powder
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
Butterbur Extract w/Standardized
Rosmarinic Acid
Calcium D-Glucarate
Chloroplex
Cilantro Herbal Extract
Citrus Bioflavonoid
Enhanced Berry Complete with RZD™ Acai
Grapeseed Extract with Resveratrol &
Pterostilbene
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
(Full-Spectrum) Pomegranate™
Pomegranate Juice Concentrate
ProGreens®
Pure-Gar™
Pycnogenol

Optimized Quercetin
Resveratrol with Synergistic Grape-Berry Actives
Rhodiola Extract
Rosmarinic Acid Extract
Silymarin
SODzyme™ with GliSODin®
Stevia Extract
Super Bio-Curcumin®
Super Curcumin with Bioperine®
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 Standardized Lignans

IMMUNE ENHANCEMENT

Agave Digestive-Immune Support
AHCC® (Active Hexose Correlated Compound)
Buffered Vitamin C Powder
Echinacea
Enhanced Life Extension Whey Protein
i26 Hyperimmune Egg
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
Ultimate Flora Advanced Immunity
Vitamin C with Dihydroquercetin
Zinc Lozenges with Vitamin C

INFLAMMATORY REACTIONS

Arthro-Immune Joint Support
ArthroMax™ with Theaflavins
Barlean's Kids DHA
Boswella
Boswella™ Topical Cream
Bromelain (Specially-coated)
Coromega Kids Brain and Body (DHA)
DHA 240
Emulsified Norwegian Cod Liver Oil
Emulsified Super Twin EPA/DHA
Fast Acting Joint Formula
5-LOXIN®
Mega EPA/DHA
Mega GLA with Sesame Lignans
MSM
Natural Relief 1222™ Cream
PhosphOmega™ Krill Oil
Perilla Oil
Serraflazyme
Shark Cartilage
SODzyme™ with GliSODin® and Wolfberry
Super Omega-3 EPA/DHA with Sesame
Lignans & Olive Fruit Extract
Tart Cherry
Udo's Choice Oil
Zyflamend Easy

LIVER HEALTH

Branch Chain Amino Acids
HepatoPro
Mega Silymarin with Isosilybin B
N-Acetyl Cysteine
SAME
Silymarin

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
 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 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®
 Optimized Cran-Max® with UTIRose™
 5-LOXIN®
 (Water-Soluble) Pumpkin Seed Extract
 Super Saw Palmetto with Beta-Sitosterol

Super Saw Palmetto/Nettle Root Formula w/Beta-Sitosterol
 Ultra Natural Prostate Formula

SKIN CARE

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
 Derma Whey
 Dual-Action MicroDerm Abrasion
 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
 Melatonin Cream
 Mild Facial Cleanser
 NaPCA w/Aloe Vera
 Neck Rejuvenating Antioxidant Cream
 New Face Solution
 Peel Off Cleansing Mask
 Pigment Correcting Cream
 (Ultra) Rejuvenex®
 Rejuvenex® Body Lotion
 Rejuvenex® Factor
 Rejuvenating Serum
 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 D Lotion
 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
 Coriolus Versicolor Super Strength
 CR Mimetic Longevity Formula
 Derma-Vits™
 Enhanced Cinsulin® w/Glucose Management Proprietary Blend
 EDTA
 (European Leg Solution) Diosmin95
 Fem Dophilus
 Femmenessence MacaPause®
 GlucoFit™
 Ideal Bowel Support 299V
 Lustre™
 Maitake SX-Fraction™
 Menopause Solutions

Migra-eeze™
 Natural Female Support
 Organic Total Body Cleanse
 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
 Complete B Complex
 Eligen® B12
 Folic Acid + B12
 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
 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 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
 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

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	48.98	36.74		
	AHCC - 4 bottles of 30 caps	174.20	130.65		
46925	ALLI® REFILL PACK - 60 mg, 120 caps	69.95	58.00		
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 - 227 grams 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	15.98	11.99		
	(L)-ARGININE FREE-FORM POWDER - 4 bottles of powder	57.24	42.93		
01303	ARTHRONAX™ w/THEAFLAVINS - 120 veg. caps	44.00	33.00		
	ARTHRONAX™ 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	26.99	20.24		
	(SUPER) ASCORBATE C POWDER - 4 bottles of powder	99.48	74.61		
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		
01066	(LOW DOSE) ASPIRIN ENTERIC COATED - 81 mg, 300 tablets	6.00	4.50		
	(LOW DOSE) ASPIRIN ENTERIC COATED - 4 bottles of 300 tablets	21.32	16.00		
00708	ASTAXANTHIN - 2 mg, 30 softgels	10.25	7.69		

* These products are not 25% off retail price.

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		
01406	(ENHANCED) BERRY COMPLETE w/RZD™ ACAI - 60 veg. caps	29.00	21.75		
	(ENHANCED) BERRY COMPLETE w/RZD™ ACAI - 4 bottles of veg. caps	104.00	78.00		
00664	BETA-CAROTENE - 25,000 IU, 100 softgels	10.98	8.24		
	BETA-CAROTENE - 4 bottles of 100 softgels	39.32	29.49		
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		
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

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					
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		
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		
01258	CARNOOOTHIE w/PICROPROTECT™ - 60 veg. caps	29.95	22.46		
	CARNOOOTHIE 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		
01359	CHO-LESS - 90 capsules	32.50	24.38		
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 CONCENTRATE - 400 mg, 60 tablets	19.95	14.96		
	CHONDROITIN SULFATE CONCENTRATE - 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		

SUB-TOTAL OF COLUMN 3

No.		Retail	Member Price	Qty	Total
01071	CHROMIUM ULTRA - 100 veg. caps	\$24.00	\$18.00		
	CHROMIUM ULTRA - 4 bottles of 100 veg. caps	84.00	63.00		
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	15.99	11.99		
	CITRUS BIOFLAVONOID - 4 bottles of 100 caps	59.28	44.46		
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 bits of 120 softgels	153.32	114.99		
00050	COD LIVER OIL - 12 fl oz (355 ml) (Emulsified)	14.58	10.94		
	COD LIVER OIL - 4 bottles of 12 fl oz (355 ml)	49.08	36.81		
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 bits of 90 softgels	266.40	199.80		
	COGNITEX w/PREGNENOLONE & NEUROPROTECTION COMPLEX - 12 bits 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		
01374	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	25.00	18.75		
	(SUPER ABSORBABLE) COQ10™ w/ d-LIMONENE - 4 bottles of 60 softgels	88.00	66.00		
	(SUPER ABSORBABLE) COQ10™ w/ d-LIMONENE - 10 bottles of 60 softgels	200.00	150.00		
00950	(SUPER ABSORBABLE) COQ10™ w/ d-LIMONENE - 100 mg, 100 softgels	66.00	49.50		
	(SUPER ABSORBABLE) COQ10™ w/ d-LIMONENE - 4 bottles of 100 softgels	240.00	180.00		
	(SUPER ABSORBABLE) COQ10™ w/ d-LIMONENE - 10 bottles of 100 softgels	560.00	420.00		
01226	(SUPER UBIQUINOL) COQ10 - 100 mg, 60 softgels	56.00	42.00		
	(SUPER UBIQUINOL) COQ10 - 4 bot of 60 softgels	208.00	156.00		
	(SUPER UBIQUINOL) COQ10 - 10 bot of 60 softgels	480.00	360.00		
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		

SUB-TOTAL OF COLUMN 4

Buyers Club Order Form

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No.		Retail	Member Price	Qty	Total
C CONTINUED					
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	CORIOIUS VERSICOLOR SUPER STRENGTH - 600 mg, 150 veg. 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 ANTIOXIDANT FACIAL MIST - 2 oz bottle	29.95	22.46		
	COSMESIS ANTIOXIDANT FACIAL MIST - 2-2 oz bottles	56.90	42.68		
80132	COSMESIS ANTIOXIDANT FACIAL MIST - 4 oz bottle	39.95	29.96		
	COSMESIS ANTIOXIDANT FACIAL MIST - 2-4 oz bottles	76.00	57.00		
80127	COSMESIS ANTIOXIDANT REJUVENATING FOOT CREAM - 2 oz jar	39.95	29.96		
	COSMESIS ANTIOXIDANT REJUVENATING FOOT CREAM - 2-2 oz jar	76.00	57.00		
80128	COSMESIS ANTIOXIDANT REJUVENATING FOOT SCRUB - 2 oz jar	52.95	39.71		
	COSMESIS ANTIOXIDANT REJUVENATING FOOT SCRUB - 2-2 oz jar	93.20	69.90		
80117	COSMESIS ANTIOXIDANT REJUVENATING HAND CREAM - 2 oz jar	59.00	44.25		
	COSMESIS ANTIOXIDANT REJUVENATING HAND CREAM - 2-2 oz jars	106.00	79.50		
80121	COSMESIS ANTIOXIDANT REJUVENATING HAND SCRUB - 2 oz jar	52.95	39.71		
	COSMESIS ANTIOXIDANT 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 btl 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		
80135	COSMESIS MELATONIN CREAM - 1 oz jar	28.00	21.00		
	COSMESIS MELATONIN CREAM - 2 - 1 oz jars	46.00	34.50		
80114	COSMESIS MILD FACIAL CLEANSER - 8 oz	52.95	39.71		
	COSMESIS MILD FACIAL CLEANSER - 2 bottles of 8 oz	93.20	69.90		
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		

SUB-TOTAL OF COLUMN 5

No.		Retail	Member Price	Qty	Total
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	79.95	59.96		
	COSMESIS VITAMIN C SERUM - 2 bottles of 1 oz	140.72	105.54		
80136	COSMESIS VITAMIN D LOTION - 4 oz	29.95	22.46		
	COSMESIS VITAMIN D LOTION - 2 bottles of 4 oz	56.00	42.00		
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		
01424	(OPTIMIZED) CRAN-MAX® with UTIROSE™ - 60 veg. caps	18.00	13.50		
	(OPTIMIZED) CRAN-MAX® with UTIROSE™ - 4 bottles of 60 veg. caps	64.00	48.00		
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		
01429	CR MIMETIC LONGEVITY FORMULA - 60 veg. caps	39.00	29.25		
	CR MIMETIC LONGEVITY FORMULA - 4 bottles of 60 veg. caps	144.00	108.00		
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	18.95	14.21		
	(L) CYSTEINE CAPSULES - 4 bottles of 60 caps	65.24	48.93		
D					
01063	DERMA-VITS™ - 90 caps	\$14.99	\$11.24		
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		

SUB-TOTAL OF COLUMN 6

No.		Retail	Member Price	Qty	Total
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		
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		
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		
*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		
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		
00048	(EMULSIFIED SUPER TWIN) EPA/DHA - 12 fl. oz.	22.45	16.84		
00625	(MEGA) EPA/DHA - 120 softgels	19.95	14.96		
	(MEGA) EPA/DHA - 4 bottles of 120 softgels	72.00	54.00		

SUB-TOTAL OF COLUMN 7

No.		Retail	Member Price	Qty	Total
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		
01064	FEMMESENCE MACAPAUSE® - 120 veg. caps	34.99	26.24		
*01311	(ENHANCED) FERBLOCK® w/SENDARA™ - 30 veg. caps	39.00	29.25		
	(ENHANCED) FERBLOCK® 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		
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® - 250 mg, 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		
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		

* 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 8

Buyers Club Order Form

To order call: 1.954.766.8433 or 1.800.544.4440

No.		Retail	Member Price	Qty	Total
G CONTINUED					
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		
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	GLUCOFT™ (COROSOLIC ACID) - 100 softgels	28.00	21.00		
	GLUCOFT™ (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		
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		
01405	HEALTHY HAIR SPRAY - 5 fl. oz (150 ml) 1 bottle	35.00	26.25		
	HEALTHY HAIR SPRAY - 4 bottles of 5 fl. oz	128.00	96.00		
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					
01060	i26 HYPERIMMUNE EGG - 140 grams of powder	\$49.99	\$42.00		
01065	IDEAL BOWEL SUPPORT 299V - 30 veg. caps	21.95	16.46		
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		
01049	INNERPOWER™ W/SWEET STEVIA - Tropical Flavor Powder	42.00	31.50		
00155	INOSINE CAPSULES - 500 mg, 60 caps	22.95	17.21		
	INOSINE CAPSULES - 4 bottles of 60 caps	84.00	63.00		

SUB-TOTAL OF COLUMN 9

No.		Retail	Member Price	Qty	Total
00109	INOSITOL CAPSULES - 500 mg, 100 caps	\$14.99	\$11.24		
	INOSITOL CAPSULES - 4 bottles of 100 caps	55.16	41.37		
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		
01292	INTEGRA-LEAN® IRVINGIA - 150 mg, 60 veg. caps	44.00	33.00		
	INTEGRA-LEAN® IRVINGIA - 4 bottles of 60 veg. caps	160.00	120.00		
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	64.00	48.00		
	(OPTIMIZED) IRVINGIA w/PHASE 3™ - 4 bottles of 120 veg. caps CALORIE CONTROL COMPLEX	240.00	180.00		
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		

SUB-TOTAL OF COLUMN 10

No.		Retail	Member Price	Qty	Total
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		
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	17.50	13.13		
	LUSTRE™ - 4 bottles of 90 tablets	62.00	46.50		
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		
00704	MAITAKE™ SX-FRACTION - 90 veg. tablets	49.95	37.46		
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		

SUB-TOTAL OF COLUMN 11

No.		Retail	Member Price	Qty	Total
00329	MELATONIN CAPSULES - 1 mg, 60 caps	\$5.00	\$3.75		
	MELATONIN CAPSULES - 4 bottles of 60 caps	18.52	13.89		
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	10.00	7.50		
	NAPCA W/ALOE VERA - 4 bottles	36.60	27.45		
00066	NATTOKINASE - 60 softgels	24.98	18.74		
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		

SUB-TOTAL OF COLUMN 12

Buyers Club Order Form

To order call: 1.954.766.8433 or 1.800.544.4440

No.		Retail	Member Price	Qty	Total
00913	NATURAL ESOPHAGUARD - 10 softgels	\$19.95	\$14.96		
	NATURAL ESOPHAGUARD - 2 boxes of 10 softgels	38.00	28.50		
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		
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	\$17.99	\$13.49		
	OCTACOSANOL - 4 bottles of 60 caps	62.96	47.22		
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		
01070	ORGANIC TOTAL BODY CLEANSE - 14-day supply	34.99	26.24		
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	\$13.99	\$10.49		
	PABA CAPS - 4 bottles of 100 caps	49.32	36.99		
00073	PANCREATIN - 500 mg, 50 caps	11.99	8.99		
	PANCREATIN - 4 bottles of 50 caps	43.96	32.97		

SUB-TOTAL OF COLUMN 13

No.		Retail	Member Price	Qty	Total
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		
00368	PHOSPHATIDYLSERINE CAPS - 100 mg, 100 caps	54.00	40.50		
	PHOSPHATIDYLSERINE CAPS - 4 bottles of 100 caps	192.00	144.00		
01050	PHOSPHOMEGA™ KRILL OIL - 60 softgels	33.95	25.46		
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		
01423	(FULL-SPECTRUM) POMEGRANATE™ - 30 softgels	24.00	18.00		
	(FULL-SPECTRUM) POMEGRANATE™ - 4 bottles of 30 softgels	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		
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		
*01495	(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		
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		

* Product cannot be sold outside the USA.

SUB-TOTAL OF COLUMN 14

No.		Retail	Member Price	Qty	Total
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	42.49	31.87		
	(DESIGNER WHEY) PROTEIN - 4 bottles of Vanilla powder	154.00	115.50		
00282	(DESIGNER WHEY) PROTEIN - Chocolate 2 lbs of powder	42.49	31.87		
	(DESIGNER WHEY) PROTEIN - 4 bottles of Chocolate powder	154.00	115.50		
00283	(DESIGNER WHEY) PROTEIN - Natural 2 lbs of powder	42.49	31.87		
	(DESIGNER WHEY) PROTEIN - 4 bottles of Natural powder	154.00	115.50		
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	16.95	12.71		
00979	RED YEAST RICE (Nature's Plus)- 600 mg, 60 veg. caps	23.20	17.40		
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		
01430	(OPTIMIZED) RESVERATROL w/SYNERGISTIC GRAPE-BERRY ACTIVES - 250 mg, 60 veg. caps	46.00	34.50		
	(OPTIMIZED) RESVERATROL w/SYNERGISTIC GRAPE-BERRY ACTIVES - 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		
00917	ROSMARINIC ACID EXTRACT - 60 veg. caps	59.00	44.25		
	ROSMARINIC ACID EXTRACT - 4 bottles of 60 veg. caps	212.00	159.00		
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		
01055	SAME (S-ADENOSYL-METHIONINE) - 400 mg, 50 tablets	78.00	58.50		
	SAME (S-ADENOSYL-METHIONINE) - 4 bottles of 50 tablets	280.00	210.00		
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-METHYSELENOCYSTEINE - 200 mcg, 100 caps	12.00	9.00		
	SE-METHYSELENOCYSTEINE - 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		
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	42.00	31.50		
	(MEGA) SILYMARIN WITH ISOSILYBIN B - 4 bottles of 100 caps	152.00	114.00		
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		
01097	(ULTRA) SOY EXTRACT - 600 veg. caps	349.00	261.75		
	(ULTRA) SOY EXTRACT - 4 bottles of 600 veg. 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	16.75	12.56		
	ST. JOHN'S WORT EXTRACT (PLANETARY) - 4 bottles of 60 tablets	55.40	41.55		

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

SUB-TOTAL OF COLUMN 16

Buyers Club Order Form

To order call: 1.954.766.8433 or 1.800.544.4440

No.		Retail	Member Price	Qty	Total
S CONTINUED					
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		
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				
01062	TART CHERRY (FRUIT ADVANTAGE) - 600 mg, 60 caps	\$18.95	\$14.21		
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		

* These products are not 25% off retail price.

** Due to license restrictions, this product is not for sale to Canada.

SUB-TOTAL OF COLUMN 17

No.		Retail	Member Price	Qty	Total
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		
01202	(OPTIMIZED) TRYPTOPURE® PLUS - 90 veg. caps	40.00	30.00		
	(OPTIMIZED) TRYPTOPURE® PLUS - 4 bottles of 90 veg. caps	144.00	108.00		
00326	L-TYROSINE TABLETS - 500 mg, 100 tablets	12.50	9.38		
	L-TYROSINE TABLETS - 4 bottles of 100 tablets	45.68	34.26		
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		
01061	ULTIMATE FLORA ADVANCED IMMUNITY - 30 caps	29.99	22.49		
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 jars of powder	176.00	132.00		
00091	VITAMIN B1 CAPS - 500 mg, 100 caps	16.99	12.74		
	VITAMIN B1 CAPS - 4 bottles of 100 caps	60.68	45.51		
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	12.99	9.74		
	VITAMIN B2 CAPS - 4 bottles of 100 caps	47.52	35.64		
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		
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		
00556	VITAMIN B6 CAPS - 250 mg, 100 caps	12.50	9.38		
	VITAMIN B6 CAPS - 4 bottles of 100 caps	44.00	33.00		
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

No.		Retail	Member Price	Qty	Total
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) - 45 mcg, 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		
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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33819	BRAIN SURGEON • by Keith Black, MD	2010	\$24.99	\$18.74	
33816	FDA: FAILURE, DECEPTION, ABUSE • by Life Extension Foundation	2010	\$20.00	\$15.00	
33818	STAY YOUNG & SEXY WITH BIO-IDENTICAL HORMONE REPLACEMENT • by Jonathan Wright, MD	2010	\$19.95	\$14.96	
33815	KNOCKOUT • by Suzanne Somers	2009	\$25.99	\$17.00	
33814	CHEATING DEATH • by Sanjay Gupta, MD	2009	\$24.99	\$17.49	
33813	TIMESHIP • by Stephen Valentine	2009	\$45.00	\$33.75	
33812	LIFE OVER CANCER • by Keith Block, MD (hardcover)	2009	\$25.00	\$17.50	
33800	TEXTBOOK OF BIO-IDENTICAL HORMONES • by Edward Lichten, MD	2007	\$49.95	\$37.46	
33811	THE GREAT AMERICAN HEART HOAX • by Michael Ozner, MD, FACC, FAHA	2009	\$24.95	\$17.47	
33810	THE ULTRAMIND SOLUTION • by Mark Hyman, MD	2009	\$27.50	\$19.25	
33809	TESTOSTERONE FOR LIFE • by Abraham Morgentaler, MD	2008	\$16.95	\$11.87	
33808	BREAKTHROUGH: EIGHT STEPS TO WELLNESS • by Suzanne Somers	2008	\$25.95	\$18.17	
33599	YOUNGER YOU • by Eric Braverman, MD	—	\$24.95	\$15.75	
33598	AGELESS • by Suzanne Somers	2006	\$25.00	\$17.50	
33666	ULTRAMETABOLISM: THE SIMPLE PLAN FOR AUTOMATIC WEIGHT LOSS • by Mark Hyman, MD	2006	\$25.00	\$15.35	
33422	BRAIN LONGEVITY • by Dharma Singh Khalsa, MD, with Cameron Stauth	1997	\$14.95	\$11.21	
33017	CANCER THERAPY • by Ralph W. Moss, PhD	1995	\$19.95	\$15.00	
33677	DANGEROUS DOSES • by Katherine Eban	2005	\$25.00	\$16.25	
33600	DISEASE PREVENTION AND TREATMENT, EXPANDED FOURTH EDITION (hardcover) Price per book when 4 books purchased	2003	\$49.95	\$37.46	
33594	THE EDGE EFFECT • by Eric Braverman, MD (paperback)	2004	\$12.95	\$9.71	
33700	ENDING AGING • by Aubrey DeGrey with Michael Rae	2007	\$28.94	\$17.75	
33488	FEMALE AND FORGETFUL • by Elisa Lottor, PhD, ND, and Nancy P. Bruning	2002	\$18.99	\$14.24	
33388	THE FIRST IMMORTAL • by James L. Halperin	1998	\$6.99	\$6.00	
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33805	MIAMI MEDITERRANEAN DIET WITH 300 RECIPES • by Michael D. Ozner, MD, FACC, FAHA (hardcover)	2008	\$24.95	\$16.25	
33906	THE MIGRAINE CURE • by Sergey Dzugas, MD, PhD	2006	\$24.00	\$15.60	
33026	MIND FOOD & SMART PILLS • by Ross Pelton, PhD	1989	\$13.95	\$11.95	
33569	OVERDOSE • by Jay Cohen, MD	—	\$24.95	\$16.95	
33680	PRESCRIPTION FOR DISASTER DVD • by Gary Null	2005	\$18.00	\$12.00	
33670	A PRIMER ON PROSTATE CANCER (2nd edition) • by Stephen B. Strum, MD, and Donna Pogliano	2005	\$28.95	\$21.71	
33262	SAVE YOUR SIGHT • by Marc Rose, MD/Michael Rose, MD	—	\$13.99	\$8.35	
33804	STAYING YOUNG: THE OWNER'S MANUAL FOR EXTENDING YOUR WARRANTY • by Mehmet Oz, MD	2008	\$26.00	\$18.20	
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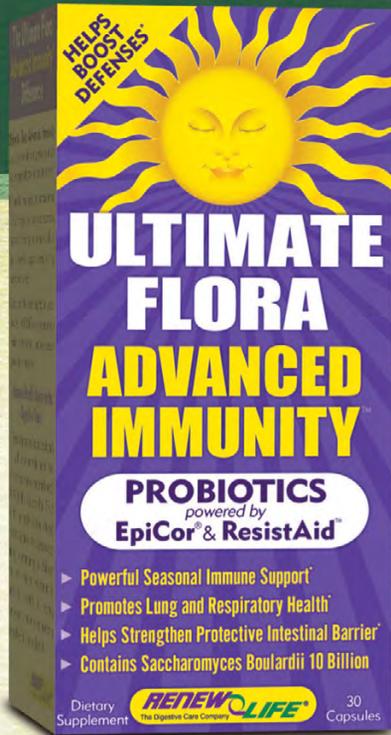
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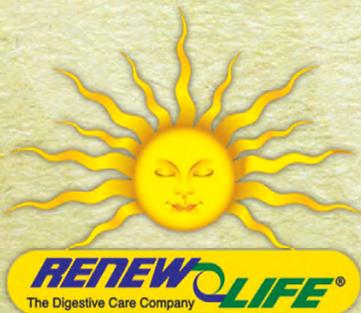
Stimulate Your Natural Immune Defenses

Advanced Dual-Protection Probiotic Improves Respiratory and Gut Immunity



Ultimate Flora Advanced Immunity™

- Advanced natural seasonal immune support*
- Enhances respiratory and intestinal immunity*
- Helps strengthen protective intestinal lining*
- 10 billion cultures S. Boulardii probiotic
- Potent antioxidant properties
- No fillers or binders



Ultimate Flora
Advanced Immunity
30-count
Retail price \$29.99
Member price \$22.49
Item #01061

Growing research into the benefits of probiotics—the good bacteria in the human digestive tract, where more than 70 percent of the body's natural immune defenses can be found—has prompted leading health experts to recommend daily supplementation with a high-potency probiotic to naturally stimulate the immune system and enhance resistance during peak times throughout the year.

Ultimate Flora Advanced Immunity™ from ReNew Life is a specially formulated probiotic that provides a unique two-part approach to enhancing immunity.* Three clinically proven natural ingredients—EpiCor® immunogen, *S. boulardii* beneficial probiotic yeast and ResistAid™ LAG—work synergistically to promote a balanced immune system and enhance the body's natural defenses during peak seasons.*

EpiCor® Immunogen

A natural derivative of *S. cerevisiae* (brewer's yeast), EpiCor is comprised of beta-glucan, mannan oligosaccharide (MOS) and additional beneficial metabolites with immune-supporting vitamins, minerals, amino acids and potent antioxidants.*

EpiCor has been shown to activate key immune cells in the body, specifically targeting the lungs and respiratory system to promote optimal immune function during peak seasons such as spring and winter.*

Saccharomyces boulardii Probiotic Yeast

The 10 billion cultures of *Saccharomyces boulardii* in Ultimate Flora Advanced Immunity™ stimulate optimal immune function by strengthening the protective intestinal barrier and promoting the growth of beneficial microflorae in the gut.*

One of the most promising natural immune-enhancing components, *S. boulardii* is a non-pathogenic yeast that has been utilized worldwide as a probiotic to support immune defenses as well as to relieve occasional diarrhea and digestive upset.* Unlike the thousands of species of microorganisms that inhabit the human digestive tract normally,

S. boulardii is a transient yeast and must be obtained through supplementation. Upon ingestion, *S. boulardii* passes through the intestines and exerts its beneficial effects throughout the entire gastrointestinal tract.*

ResistAid™ LAG

ResistAid is a uniquely effective natural antioxidant that contains Arabinogalactan, the key component of the immune-enhancing herb *Echinacea*.* Found in a more bioactive form in ResistAid, arabinogalactan exhibits a stimulatory effect on the human immune system by helping to increase beneficial immune cell populations.*

Research has shown that supplementation with LAG can increase the number of immune-defending white blood cells and in turn enable the immune system to more effectively cope with seasonal and everyday stress.* The potent antioxidant capacity of ResistAid is attributed to its high levels of beneficial plant compounds known as polyphenols.*

Now you can obtain the natural benefits of each of these uniquely powerful ingredients in a single daily supplement. It's the most advanced probiotic available for optimal immune system and respiratory function.*

To order Ultimate Flora Advanced Immunity, call 1-800-544-4440 or visit www.lef.org **LifeExtension**

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

NEXT-GENERATION FORMULA

Optimized Cran-Max[®] with UTIRose[™]

Featuring a Novel High-Concentration *Hibiscus Polyphenol Blend*



The anatomy of the female **urinary tract** differs greatly from men, resulting in the need for additional nutritional support for women.

A wealth of published studies indicates that **cranberry polyphenols** may help to support a healthy urinary tract.¹⁻⁵

Of particular importance is the flavonoid content of the cranberry, including **anthocyanins** and **proanthocyanidins**. These natural compounds exert powerful antioxidant effects that can reduce oxidative stress.

Recent clinical data suggest that the proanthocyanidins found only in cranberries also possess **unique** molecular features that specifically promote urinary system health.⁶⁻⁸

A Synergistic Compound Available Only in Europe—Until Now

In a significant advance, **Life Extension[®]** has identified a unique compound available overseas but little-known in the United States that provides a **synergistic complement** to the whole cranberry's phytonutrient profile.

UTIRose[™] is derived from ***Hibiscus sabdariffa***, a species native to Europe, Asia, and Africa. Scientific analysis has shown that this species' flower and calyx (the green floral envelope surrounding the blossom) are rich in active polyphenols, including **flavonoids**, **sambubiosides**, and **proanthocyanidins**.

Of special importance is a flavonoid found in *Hibiscus sabdariffa* called **gossypetin** (3,5,7,8,3', 4'-hexahydroxy flavone), which has been shown to provide support for urinary system health.⁹

Life Extension[®] uses a unique, patented process in the manufacture of Optimized Cran-Max[®] with UTIRose[™]. Each daily serving supplies the complete phenolic profile of the whole cranberry *plus* hibiscus polyphenols in a standardized, highly absorbable, *concentrated* form. Two capsules of Optimized Cran-Max[®] with UTIRose[™] contain:

UTIRose[™] (<i>Hibiscus sabdariffa</i>) extract (flower, calyx)	200 mg
Cran-Max[®] Cranberry infused whole fruit extract	500 mg

The suggested daily amount of Cran-Max[®] in this formula alone (500 mg) was demonstrated to provide the **anthocyanin** equivalent of **seven 8 oz glasses** of Ocean Spray[®] Cranberry Juice Cocktail.¹⁰

The price for one bottle of **Optimized Cran-Max[®] with UTIRose[™]** containing 60 vegetarian capsules is \$18. If a member buys four bottles, the price is reduced to **\$12 per bottle**.

References

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9. *The Antiseptic*. 2002 Mar; 99(3): 81-2.
10. Cran-Max[®] versus Ocean Spray Cranberry Juice cocktail bioactive comparison. Independent laboratory analysis. Tucson, AZ: Atlas Bioscience, Inc.; 2006.



Item #01424



To order the new **Optimized Cran-Max[®] with UTIRose[™]**,
call **1-800-544-4440** or visit **www.LifeExtension.com**

Cran-Max[®] registered trademark of BDM Technologies, LLC. UTIRose[™] is a trademark of Burgundy Botanical Extract. Bio-Shield[®] is a registered trademark of Bio-Nutra Technologies, LLC.

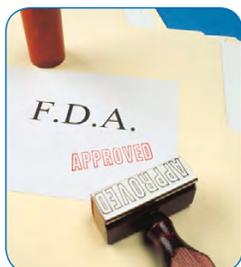
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WHAT'S INSIDE

LifeExtension® Magazine

DEADLY FDA NEGLECT (Page 7)



Decades after **Life Extension**® exposed the dangers of acetaminophen, the FDA finally took limited action to reduce the number of lethal side effects. Conventional physicians, meanwhile, *ignore* non-toxic interventions to help relieve chronic pain.

ACTIVATE YOUR SKIN'S INTERNAL SUNBLOCK (Page 24)



Rates of melanoma have more than doubled despite widespread sunscreen use. New studies substantiate dietary interventions that activate your skin cells' ultraviolet defenses internally.

CUTTING-EDGE PROTECTION FROM EXCESS CALORIES (Page 34)



Startling new research confirms that millions of normal-weight people ingest more calories than their bodies can safely utilize. Find out how a new **calorie restriction mimetic** offsets some of these effects and enhances the benefits of **resveratrol**.

LIFE EXTENSION FUNDS GROUNDBREAKING CANCER STUDY (Page 48)



Mice bred with **super-charged granulocytes** were recently shown to be 100% resistant to *all* forms of cancer. The **Life Extension Foundation**® has provided funding for the first human study using this cancer treatment.

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