

**FDA's MOST HEINOUS DRUG APPROVAL**

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JUNE 2011

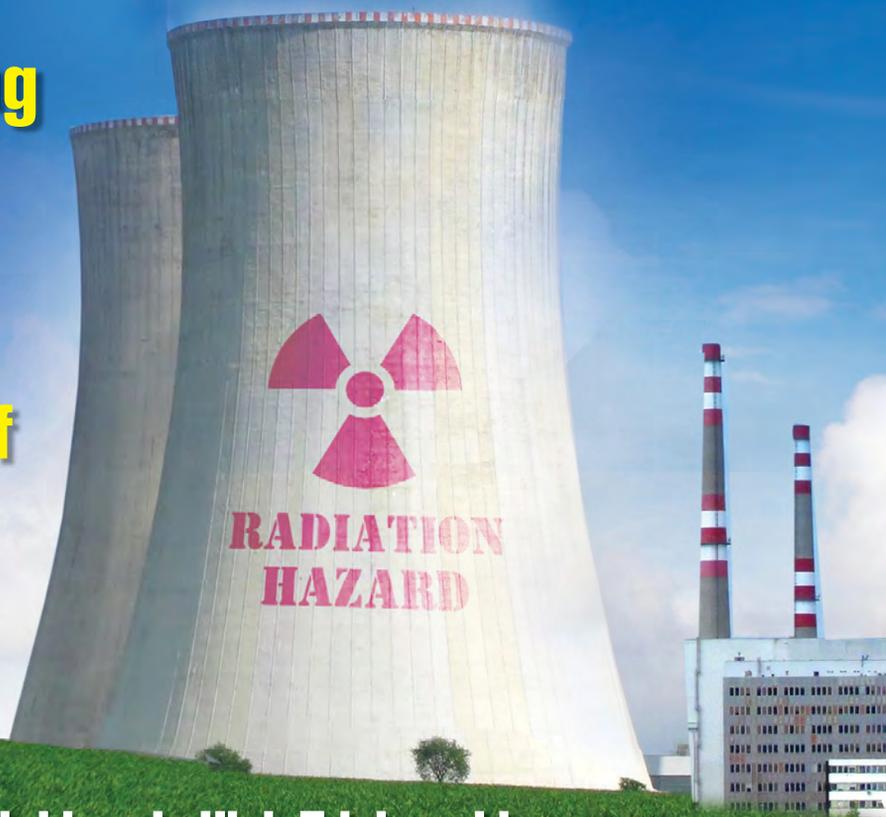
**Why Did So Many  
Americans Ignore Our**

# **WARNING?**

**Reverse Signs of Aging  
Around the Eyes**

**Reduce Intraocular  
Pressure Naturally**

**Critical Importance of  
Annual Blood Testing**



**PLUS—**  
**Lower Stubbornly High Triglycerides**  
**Vitamin E Reduces Risk of ALS**  
**New Study: Green Tea Safeguards Kidneys**

PURE, HEART HEALTHY

# Super Omega-3

## EPA/DHA



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

### A Comprehensive Fatty Acid Formula

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

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

### Sesame Lignans and Standardized Olive Fruit Extract for Enhanced Benefits

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

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

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

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

Item #01482



Item #01484

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

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

<b>EPA Pure+™ Extract</b> (eicosapentaenoic acid)	<b>1400 mg</b>
<b>DHA Pure+™ Extract</b> (docosahexaenoic acid)	<b>1000 mg</b>
<b>Olive Fruit Extract</b> [std. to 6.5% polyphenols (39 mg), 1.73% hydroxytyrosol/tyrosol (10.4 mg), 0.5% verbascoside/oleuropein (3 mg)]	<b>600 mg</b>
<b>Sesame Seed Lignan Extract</b>	<b>20 mg</b>

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

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

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

#### References:

1. *Public Health Nutr.* 2006 Dec;9(8A):1136-40.
2. *Am J Prev Med.* 2005 Nov;29(4):335-46.
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Supportive but not conclusive evidence shows that consumption of EPA and DHA omega-3 fatty acids may reduce the risk of coronary heart disease.

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.

# LifeExtension®

Volume Seventeen / Number Six ■ June 2011

## REPORTS



### 44 NATURAL METHOD TO REVERSE GLAUCOMA RISK FACTOR

Glaucoma is the second leading cause of blindness worldwide. Optic nerve damage is preceded by increased intraocular pressure. Up to **50%** of people with elevated intraocular pressure remain undiagnosed. A nutrient compound developed in Europe has been shown to reduce **intraocular pressure** by **24%** when used alone... and by **40%** when combined with conventional therapy.



### 54 REVERSE SKIN AGING AROUND YOUR EYES

The area of thin, delicate skin around the eyes is one of the first places where signs of aging appear. While not always a sign of fatigue or illness, the emergence of crow's feet, bags, and dark circles can make you look older than you really are. Discover what causes these visible indicators of aging and how to reverse them *naturally*.



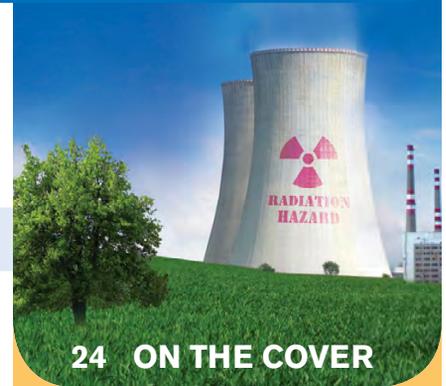
### 66 PROPRIETARY GREEN TEA EXTRACT PROTECTS THE KIDNEYS

Chronic kidney disease is a stealth affliction affecting 26 million Americans. If allowed to progress unchecked, kidney damage disables aging individuals to the point where they require dialysis three times a week. Early detection is *essential*. In a significant advance, the green tea extract contained in **Life Extension's** formula was shown to protect against drug-induced kidney damage.



### 78 REDUCE STUBBORNLY HIGH TRIGLYCERIDES

Mainstream doctors erroneously believe that blood **triglyceride** levels up to **149 mg/dL** are safe. Reality is that aging people should strive to keep them far below **100** to protect against heart attack and ischemic stroke. A recent study shows that **tocotrienols** can lower artery-clogging triglycerides by **28%**. This is especially relevant for those who have less-than-optimal triglyceride levels even though they take the proper dose of fish oil.



## 24 ON THE COVER

### OUR WARNINGS ABOUT RADIATION WERE IGNORED!

Back in **2002**, we urged the public to maintain a personal supply of **potassium iodide** in case of a nuclear emergency. When disaster struck in Japan, most **Life Extension®** members were prepared, but the rest of the world was *not*, resulting in a global shortage of the most effective compound to protect the thyroid gland. Here we enlighten readers to a comprehensive nutritional regimen to help protect the *entire body* in case a radiation emergency occurs in your geographic area.

### 36 VINDICATION FOR LINUS PAULING

For decades, the Federal government lied about the dangers of above-ground nuclear weapons testing. When the Federal government was finally forced to fess up, their report revealed at least **15,000** cancer deaths in the US caused by radioactive fallout from these detonations. In this report from the May 2002 edition of **Life Extension Magazine®**, we detail Nobel laureate physicist Dr. Linus Pauling's lifelong campaign to ban above-ground nuclear testing despite *relentless* Federal opposition.

## DEPARTMENTS

### AS WE SEE IT

#### 7 FDA'S MOST HEINOUS DRUG APPROVAL

One of the reasons members have their **blood tested** annually is to detect drug toxicities before permanent tissue damage is inflicted. When it comes to the fraudulent drug you are about to read about however, it would have been challenging for any of us to have survived. This deadly drug was administered intravenously during surgical procedures. It killed 1,000

people a month before it was withdrawn from the marketplace, *not* because the **FDA** demanded it, but due to numerous wrongful death lawsuits that were piling up against the pharmaceutical company.

#### 15 IN THE NEWS

Apple polyphenols boost longevity in experimental model; landmark calorie restriction study planned; coffee drinkers have fewer strokes; increased supplement use among specialists; and more.

#### 89 OBSCENE PROFITS OVER HUMAN LIFE

As a follow-up to this month's "As We See It," the CNN investigative report reprinted here shocks the conscience. It provides a scandalous portrait of how Federal officials *collaborated* with Pfizer to push yet another drug known to be deadly onto trusting patients, hide the evidence, and shield the drug company behemoth from criminal prosecution.

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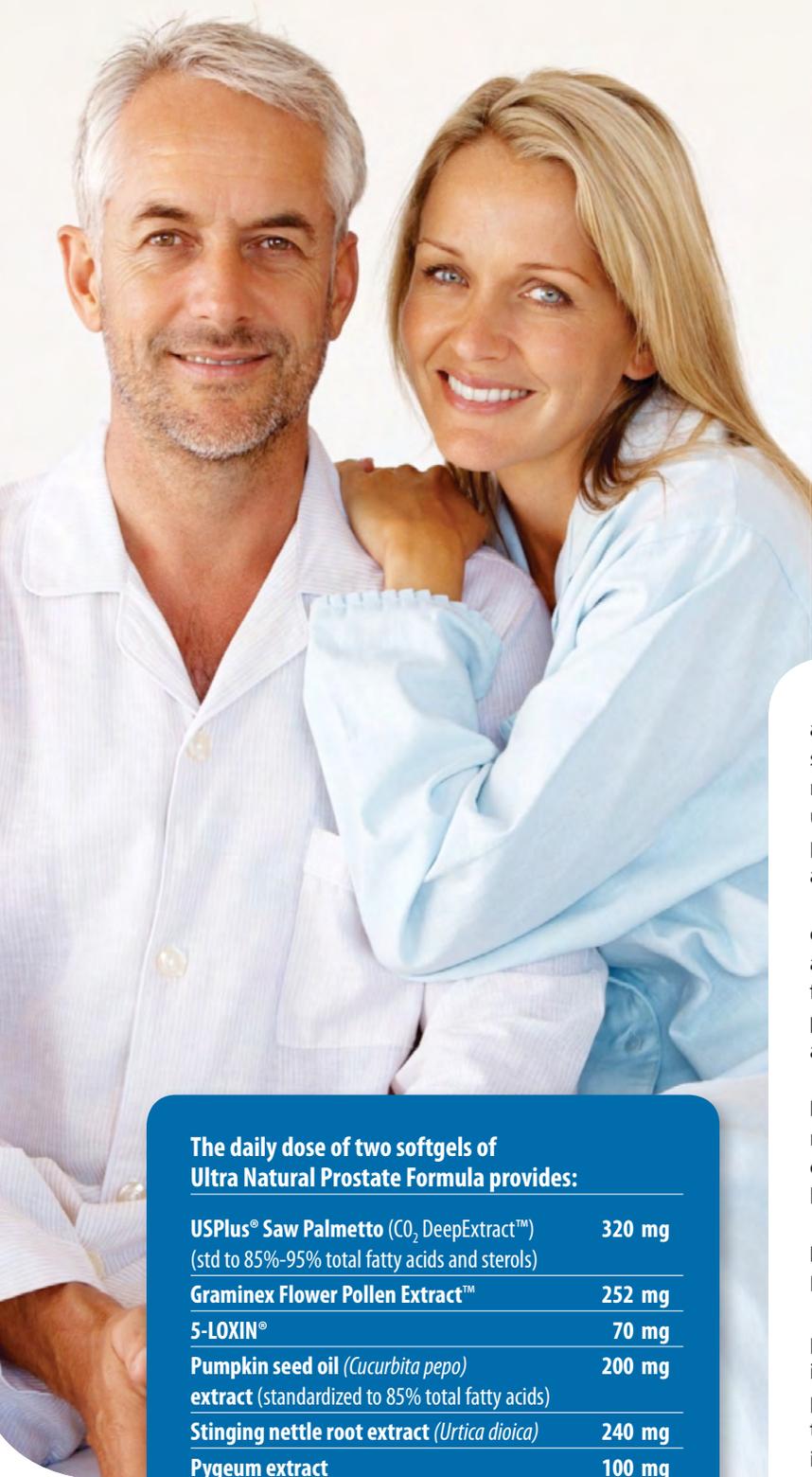
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# ULTRA NATURAL PROSTATE FORMULA PROVIDES ULTRA PROTECTION

For a large percentage of men over the age of 50, having a healthy prostate is the key to living a normal life. Dietary supplementation for urinary and prostate health helps men maintain a normal hormonal balance, which promotes normal urinary flow and prostate health. Choosing to support a healthy prostate through supplementation is one of the smartest choices an aging man can make.

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

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

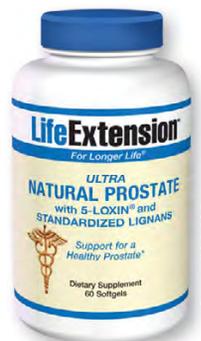
In order to boost its anti-estrogen capabilities, **Ultra Natural Prostate Formula** incorporates **HMRLignan™**, derived from Norway spruce, flax lignans, and **nettle root extract**.

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

**Ultra Natural Prostate Formula** also contains **5-LOXIN® boswellia extract** to protect against the dangerous enzyme *5-lipoxygenase* and the mineral **boron** to help slow elevation of prostate-specific antigen (PSA).

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

**Contains soybeans.**



Item #01495

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

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

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**To order Ultra Natural Prostate Formula, call 1-800-544-4440 or visit [www.LifeExtension.com](http://www.LifeExtension.com)**

\* 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.

**Gustavo Tovar Baez, MD**, operates the Life Extension Clinic in Caracas, Venezuela. He is the first physician in Caracas to specialize in anti-aging medicine.

**Ricardo Bernales, MD**, is a board-certified pediatrician and general practitioner in Chicago, IL, focusing on allergies, bronchial asthma, and immunodeficiency.

**Thomas F. Crais, MD, FACS**, a board-certified plastic surgeon, was medical director of the microsurgical research and training lab at Southern Baptist Hospital in New Orleans, LA, and currently practices in Sun Valley, ID.

**John Crisler, DO**, is an osteopathic physician and president of The All Things Male Center for Men's Health in Lansing, MI. Dr. Crisler is a distinguished leader in the field of anti-aging medicine.

**William Davis, MD**, is medical director of Milwaukee Heart Scan and developer of the web-based initiative Track Your Plaque, the only heart disease prevention program that uses the new CT heart scans to detect, track, and control coronary plaque.

**Martin Dayton, MD, DO**, practices at the Sunny Isles Medical Center in North Miami Beach, FL. His focus is on nutrition, aging, chelation therapy, holistic medicine, and oxidative medicine.

**Dr. John DeLuca** is a 2005 graduate of St. George's University School of Medicine. He completed his Internal Medicine residency at Monmouth Medical Center in Long Branch, New Jersey, in 2008 and is board certified by the American Board of Internal Medicine. Dr. DeLuca is a Diplomate of the American Academy of Anti-Aging Medicine and has obtained certifications in hyperbaric medicine, pain management, nutrition, strength and conditioning, and manipulation under anesthesia.

**Sergey A. Dzugan, MD, PhD**, was formerly chief of cardiovascular surgery at the Donetsk Regional Medical Center in Donetsk, Ukraine. Dr. Dzugan's current primary interests are anti-aging and biological therapy for cancer, cholesterol, and hormonal disorders.

**Patrick M. Fratellone, MD**, is the founder and executive medical director of Fratellone Associates. He completed his Internal Medicine and Cardiology Fellowship at Lenox Hill Hospital in 1994, before becoming the medical director for the Atkins Center for Complementary Medicine.

**Carmen Fusco, MS, RN, CNS**, is a research scientist and clinical nutritionist in New York City who has lectured and written numerous articles on the biochemical approach to the prevention of aging and degenerative diseases.

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**R. Arnold Smith, MD**, is a clinical radiation oncologist who specializes in using immunotherapy to enhance the safety and efficacy of conventional cancer therapies.

**Stephen L. Smith, MD**, Richland, WA, focuses on treating allergies and is a member of the American Society for Lasers in Medicine and Surgery.

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**Javier Torres, MD**, is a member of the American Academy of Physical Medicine and Rehabilitation and is on the medical staffs of Sunrise Hospital, Desert Springs Hospital, Valley Hospital, and Mountain View Hospital, all in Las Vegas, NV.

**Paul Wand, MD**, Fort Lauderdale, FL, is a clinical neurologist with special expertise in treating and reversing diabetic peripheral neuropathy and brain injuries from various causes.

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

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



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



**John Boik, PhD**, is the author of two books on cancer therapy, *Cancer and Natural Medicine* (1996) and *Natural Compounds in Cancer Therapy* (2001). He obtained his doctorate at the University of Texas Graduate School of Biomedical Sciences with research at the MD Anderson Cancer Center, focusing on screening models to identify promising new anti-cancer drugs. He conducted his postdoctoral training at Stanford University Department of Statistics. He is currently president of New Earth BioMed, a nonprofit cancer research corporation that studies mixtures of natural products.



**Eric R. Braverman, MD**, is director of the Place for Achieving Total Health (PATH Medical and the PATH Foundation) in New York City. Dr. Braverman received his BA from Brandeis University Summa Cum Laude/Phi Beta Kappa and his MD from New York University Medical School with Honors. He is the author of *Younger You* (2006) and *Younger Thinner You* (2009) and over 100 research papers and is clinical assistant professor of integrative medicine in the Department of Neurosurgery at Cornell Weill Medical College, as well as a lecturer on mild cognitive decline.



**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.



**Steven B. Harris, MD**, is president and director of research at Critical Care Research, a company that grew out of 21st Century Medicine in Rancho Cucamonga, CA. Dr. Harris participates in groundbreaking hypothermia, cryothermia, and ischemia research. His research interests include antioxidant and dietary-restriction effects in animals and humans.



**Stanley W. Jacob, MD**, is Gerlinger Distinguished Professor, Department of Surgery, Oregon Health and Science University. He has authored 175 scientific articles and 15 books and holds 3 patents, including the initial patent on the therapeutic implications of dimethyl sulfoxide (DMSO).



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



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



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



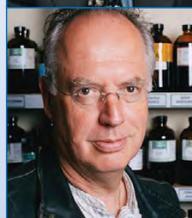
**Michael D. Ozner, MD, FACC, FAHA** is a board-certified cardiologist who specializes in cardiovascular disease prevention. He serves as medical director for the Cardiovascular Prevention Institute of South Florida and is a noted national speaker on heart disease prevention. Dr. Ozner is also author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



**Robert Pastore, PhD, CNS** is a clinical nutritionist practicing in New York City. Due to his thorough nature and focus on organic chemistry and biochemistry, his colleagues have termed his practice forensic nutrition. He is a member of Harvard Medical School Postgraduate Association, the American College of Nutrition, New York Academy of Sciences, and the American Association of Pharmaceutical Scientists.



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



**Jonathan Treasure, AHG, MNIMH**, is a British medical herbalist at the Centre for Natural Healing in Ashland, OR. Originally a medical sciences graduate from Cambridge University, he studied herbal medicine at the UK School of Phytotherapy. His clinical specialty is integrative botanical medicine for cancer, and his principal research interest is herb/drug interactions.



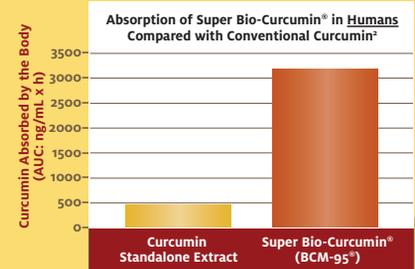
**Jonathan V. Wright, MD**, is medical director of the Tahoma Clinic in Renton, WA. He received his MD from the University of Michigan and has taught natural biochemical medical treatments since 1983. Dr. Wright pioneered the use of bioidentical estrogens and DHEA in daily medical practice. He has authored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

# The better Curcumin

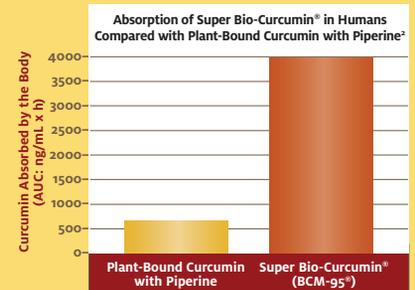
## For Optimal Absorption



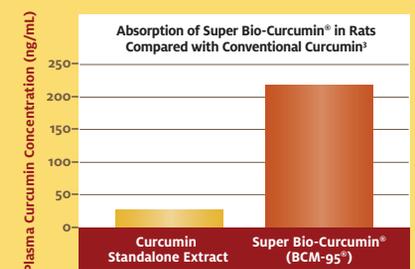
### How Much Curcumin Are You Absorbing?



**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.

In 2010, there were more than 160 published studies on curcumin. Every week, scientists discover new benefits of curcumin, such as reducing inflammation and promoting healthy DNA function.

Unfortunately, not all forms of curcumin are readily absorbed into the bloodstream. As a result, you may not be achieving peak blood levels of this vital nutrient.

**Super Bio-Curcumin®** is absorbed up to **seven times** more than regular curcumin.<sup>1,2</sup>

The graphs on this page illustrate that just one **400 mg** capsule of **Super Bio-Curcumin®** can provide curcumin levels equivalent to ingesting **2,500-2,800 mg** of other curcumin supplements.

Additionally, **Super Bio-Curcumin®** can stay in the bloodstream almost twice as long as other curcumin supplements.

Life Extension®'s **Super Bio-Curcumin®** contains the newly patented BCM-95® turmeric compound. A bottle containing 60 **Super Bio-Curcumin® with BCM-95®** capsules retails for \$35. If a member buys four bottles, the price is reduced to just **\$24** per bottle. Each bottle will last most members two months.

Contains rice.

**References:**

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**To order Super Bio-Curcumin®  
with BCM-95®, call 1-800-544-4440  
or visit [www.LifeExtension.com](http://www.LifeExtension.com)**

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Item #00407

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.

## The FDA's Most Heinous Drug Approval



BY WILLIAM FALOON



When it comes to lethal FDA-approved drugs, I always felt that **Life Extension**<sup>®</sup> members had a better chance of surviving **adverse reactions** compared to the general public.

One reason is that members have their **blood tested** annually so they can detect many types of drug toxicities before permanent damage is inflicted. Another defense members have are the **healthy lifestyles** they follow, which confers protection against mechanisms by which prescription drugs kill, such as **glutathione depletion** and **fatty acid metabolite imbalance**.<sup>1-5</sup>

As it relates to the **fraudulent** drug you are going to read about, however, it would have been challenging for any of us to survive. This deadly drug was administered intravenously during complex surgical procedures where one's life is completely at the mercy of others.

I am going to relate what may be the most atrocious cover-up of a toxic drug that a pharmaceutical company has ever perpetrated—a drug that the FDA should have never approved.

## AS WE SEE IT

### Why Some Surgery Patients Need These Kinds of Drugs

A common surgical complication is excessive bleeding. In patients at high risk of bleeding, intravenous drugs are administered ahead of time.

While lower-cost alternative drugs are available to reduce bleeding complications, pharmaceutical giant **Bayer** successfully penetrated the market with a drug called **Trasylol®** that costs about **\$1,000** per patient.

If you wonder how this kind of price gouging occurs, large drug companies aggressively promote expensive new drugs to doctors, in some cases paying cash kickbacks so that the more expensive drug is used in place of an alternative of equal efficacy.

In the case of Trasylol®, the results turned tragic.

### The FDA's Erroneous Approval of Trasylol®

Despite data showing that Trasylol® inflicted severe kidney damage in animals,<sup>6</sup> the FDA approved it for human use in **1993**.<sup>7</sup> Low-cost alternative anti-bleeding drugs are less likely to produce this lethal side effect.

Soon, the same kidney side effects observed in animals were occurring in humans. One surgeon observed that the most common side effect seen in patients given Trasylol® was renal dysfunction. This surgeon then conducted a 20-patient study (not funded by Bayer) and found that **13 of 20** patients given Trasylol® had problems with kidney function after the surgical procedure.<sup>8</sup>

When the FDA approved Trasylol®, they did note that kidney toxicity was a problem. But

Bayer lobbied the FDA hard, and by **1998**, the FDA expanded approval of Trasylol® to cover all heart bypass patients.<sup>9</sup>

Sales of Trasylol® in **2005** hit \$300 million, and Bayer envisioned a billion-dollar-per-year blockbuster.<sup>10</sup> These kinds of profits provide an enormous war chest to lobby FDA officials to turn a blind eye, even while thousands of surgical patients were dying each year from kidney failure caused by Trasylol®.

Investigators were initially perplexed because kidney toxicity showed up in some studies, but not others. Critics maintain that Bayer never paid for studies large enough to determine the renal toxicity of Trasylol®.

The primary side effect mechanism of Trasylol® is that it causes excess blood clotting inside blood vessels (thrombosis).<sup>11</sup> This made tissues throughout the body vul-

nerable to loss of blood flow, which is why patients given Trasylol® sometimes died from multiple organ failure—plus amputation of limbs.

### Trasylol® Carnage Covered Up by Bayer

In **2006**, a study was released showing that thousands of Americans were being killed each year by Trasylol®.<sup>11</sup> The FDA responded by issuing an “advisory” alerting doctors to this potential problem, but did not plan to have a formal meeting about Trasylol® for **eight months**.<sup>12,13</sup>

Bayer was desperate to keep Trasylol® on the market, so they hired a respected Harvard professor to look at the records of nearly 70,000 patients treated with Trasylol®. The Harvard professor's report did not please Bayer.



It revealed that horrific numbers of Americans had died from Trasylol®. The Harvard professor wrote that patients on Trasylol® had an elevated risk of death and acute kidney failure.<sup>10</sup>

When the FDA finally held an advisory committee meeting to address the Trasylol® deaths, Bayer intentionally withheld the Harvard professor's exhaustive study.<sup>14</sup> Since the FDA did not know of Bayer's negative study, it voted to keep Trasylol® on the market.

A week later, the Harvard professor went to the FDA to inform them that Bayer had hidden the study showing the lethal dangers of Trasylol®.<sup>15</sup> The FDA's response was to issue another warning to doctors.<sup>16</sup> Bayer meanwhile continued to sell hundreds of millions of dollars worth of Trasylol® to unsuspecting surgical patients.

### One Thousand Lives Lost Each Month Because of the FDA's Delay in Removing Trasylol®

In **2007**, the Canadian government terminated a study using Trasylol® because too many patients were dying.<sup>17</sup> Germany responded to this study by banning Trasylol® altogether.<sup>18</sup> The FDA's initial response was to convince Bayer to suspend marketing of Trasylol® only temporarily.<sup>19,20</sup>

In **2008**, amid a flurry of lawsuits, Bayer announced that it was removing the remaining supply of Trasylol® from the American market.<sup>21</sup>

Experts estimate that had the FDA taken action when the first report came out, **22,000** lives could have been saved—which equates to about 1,000 needless deaths each month the FDA failed to act.<sup>10</sup>



Bayer suspended two employees<sup>22</sup> for failing to disclose the Harvard study to the FDA. As with other pharmaceutical companies that cover up the lethal dangers of their drugs, the FDA has taken no action against Bayer. Contrast FDA *inaction* against Bayer to FDA's threats to imprison growers of cherries and walnuts for promoting the health benefits of their foods.<sup>23,24</sup>

### Why Health Care Costs So Much

The side effects attributed to Trasylol® include heart attack, stroke, kidney failure, and excruciating slow deaths.<sup>25</sup>

The medical costs of caring for patients injured by Trasylol® are incomprehensible. In some cases, relatively healthy people suffered so much tissue damage that they were hospitalized in ICU units for

months before they died. Other victims require thrice weekly kidney dialysis, kidney transplants, lifetime nursing home care, and numerous other medical costs, not to mention lost productivity.<sup>26,27</sup>

If you ever wonder why medical costs are bankrupting the United States, look no further than the fraudulently approved drugs that permeate the marketplace. When government-approved medicines inflict this kind of carnage, the inevitable result is an explosive growth in the numbers of Americans requiring expensive chronic healthcare.

### Federal Government Does Not Protect Us

In this issue of *Life Extension Magazine*®, we reprint an article published by CNN titled "*Feds Found Pfizer Too Big to Nail.*" It describes in detail the criminal

## AS WE SEE IT

### Now That Trasylol® Is Gone...Alternative Drug Prices Skyrocket

When **CBS News** first broke this story, they stated that safer drugs that effectively reduced bleeding complications cost only around **\$50.00** (compared to around **\$1,000** for **Trasylol®**).<sup>10</sup>

Now that Trasylol® has been removed from the market, alternative drugs (such as aminocaproic acid) cost around \$750 per surgical procedure based on information that took us months to extract from hospitals. No hospital wanted to volunteer what they charge for aminocaproic acid. This may be because of the absurd price gouging that routinely occurs at hospital pharmacies, such as charging \$10 for an aspirin tablet.

This kind of unconscionable overcharging is just one of many reasons why our sick-care system is collapsing into a financial abyss.

activities Pfizer perpetrated to illegally market the drug Bextra® to treat surgical pain.

Like other drugs in the COX-2 inhibitor class, Bextra® was shown to *increase* heart attack risk and was withdrawn from the market.<sup>28</sup> The unfortunate consequence for many surgical patients, however, is that they were exposed to two lethal drugs (Trasylol® and Bextra®) at a time when these patients were particularly vulnerable to pathological clotting inside blood vessels (thrombosis).

Trasylol® was first administered intravenously to prevent excess bleeding, but in reality it caused excess blood clotting inside the arteries of many of its victims.<sup>29</sup> In the post-surgical setting, patients were sometimes prescribed a double dose of Bextra® to alleviate surgical pain. One pathological effect of Bextra® is to increase a fatty acid metabolite called *thromboxane A2*, which further increases thrombotic risk.<sup>4,5</sup> If you wonder why so many hospital patients die from

“surgical complications,” look no further than FDA-approved drugs they were given.

Trasylol® was allowed to remain on the market for 14 years, whereas Bextra® was illegally touted for less than 5 years before being withdrawn.<sup>30</sup> Life Extension warned about the dangers of drugs like Bextra® and Vioxx® within a year of the FDA approving them.<sup>31</sup> We were in the dark about Trasylol®, however, since this was a drug that surgeons made a decision on using.

The bottom line is that prescription drug costs are contributing to the bankruptcy of this nation’s healthcare system. Yet the federal government continues to deceive consumers into believing that they must pay inflated costs in order to be assured of **safety** and efficacy.

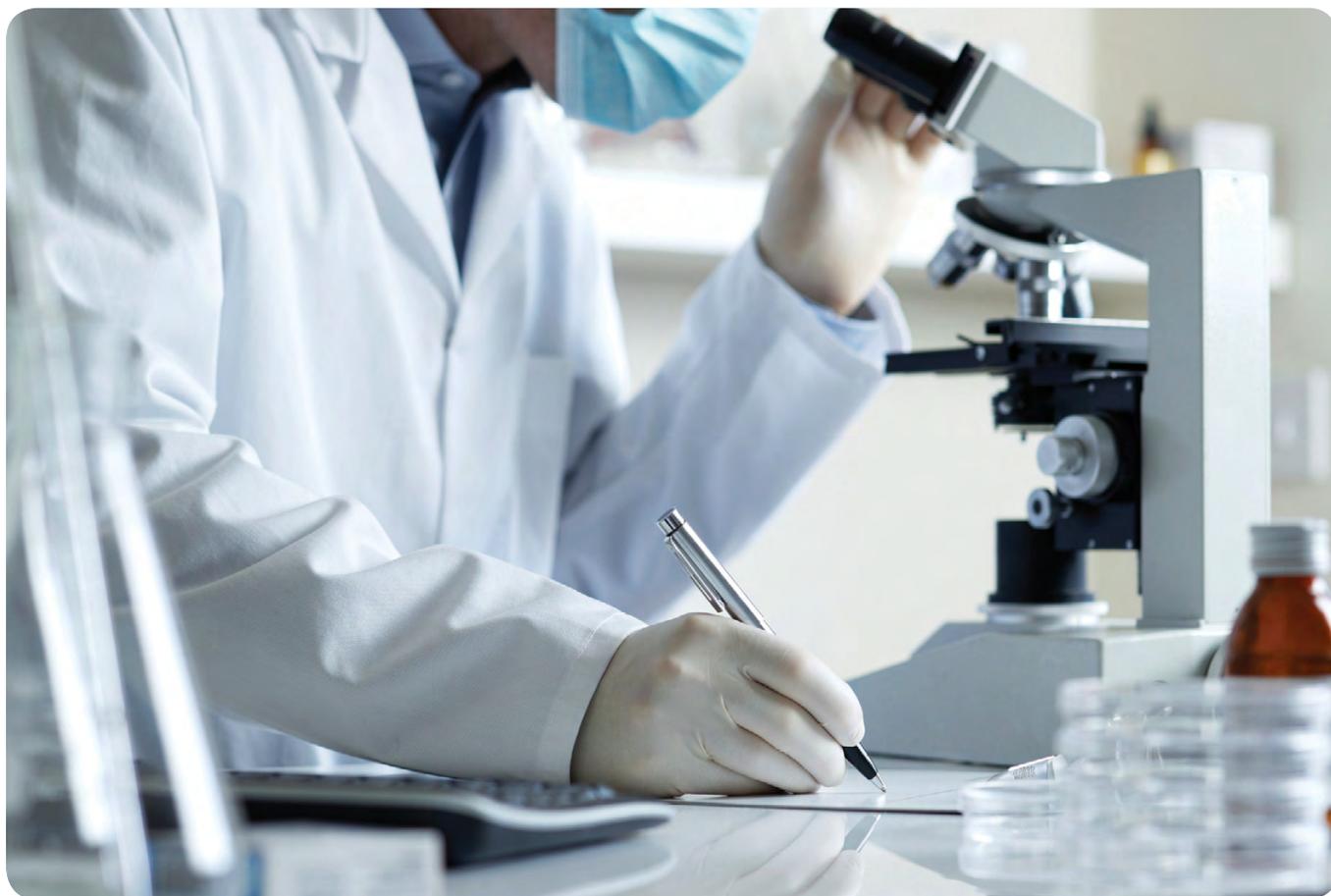
The reality is that high costs give pharmaceutical companies enormous profits that they use to fraudulently promote their drugs, pay off doctors, and lobby the FDA/Congress to protect their stranglehold over what drugs consumers have access to.<sup>32-34</sup>

**Life Extension** remains committed to protecting its members against the blatant corruption that exists today between pharmaceutical companies that engage in fraud to promote dangerous drugs and the politicians and bureaucrats who allow this murderous conspiracy to perpetuate.

### Blood Tests Can Detect Drug Toxicities in Time to Reverse Damage

**Blood tests** that evaluate liver, kidney, muscle, and bone marrow function can detect a wide range of drug toxicities long before permanent damage occurs.





For instance, if a blood test finding uncovers specific tissue damage, a careful evaluation of the drugs you are taking can pinpoint the one causing the problem so you can discontinue it. This usually reverses the damage. Failure to catch a drug-induced pathology in time can result in **irreversible** system failure.

Regular blood testing can also enable your doctor to adjust the dose of drugs you are taking, and enable you to change your nutrient dose in order to obtain better and safer results.

For example, doctors often prescribe the same dose of a statin drug to every patient. The problem is that the dose of statin drugs required varies considerably between patients. Some can take a small dose (10 mg/day) of a drug

like simvastatin and achieve LDL levels below 80 mg/dL, whereas others require higher doses (in addition to nutritional interventions).

Comprehensive blood tests function as a “report card” to verify that medications, hormones, and supplements you take each day are providing the desired benefits and not inflicting side effects.

When it comes to over-the-counter (OTC) drug toxicity, we at Life Extension have uncovered it in people as young as 21 years old and reversed it by getting them off high-dose analgesics like ibuprofen.

**Annual blood testing** saves lives not only by detecting drug toxicities, but also revealing vascular risk factors such as elevated triglycerides, glucose, C-reactive protein,

and LDL in time to take corrective actions. Hormone imbalances can also be uncovered by proper blood testing. Results from these tests provide a roadmap to enable hormones to be safely restored to youthful ranges.

### **Low-Cost, Convenient Blood Testing**

The high prices charged by commercial labs deny most people access to **comprehensive blood tests**. This is a tragedy as proper blood testing can identify reversible factors before stroke, cancer, kidney failure, diabetes, or coronary artery blockage is diagnosed.

Life Extension has torn down these high-cost barriers by offering comprehensive **Male** and **Female Blood Test Panels**. Once

## AS WE SEE IT

a year, we discount these popular panels down to only **\$199**—which is about **80%** less than what commercial labs charge.

When you place your order, we send you a pre-filled-in requisition form and list of drawing stations in your area where you can go at your convenience.

The **Blood Test Super Sale** this year expires on June 6, 2011. You should not delay in placing your order to take advantage of these extra-discounted prices.

Once you have your requisition form, you can have your blood drawn anytime thereafter. The results are mailed directly to you. If you have any questions when your results come back, you are welcome to call our health advisor helpline.

The page on the right describes the many tests included in the comprehensive **Male and Female Blood Test Panels** and the ease with which you can order them today. ●

For longer life,



William Faloon

**P.S.** If you want to view the televised report that **CBS News** did on the Trasyol® travesty, just go to Google and type in: **“Trasyol® and 60 Minutes.”**

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## MALE AND FEMALE BLOOD TEST PANELS

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

### MALE PANEL

#### HORMONES

**DHEA-S**  
**Free Testosterone**  
**Total Testosterone**  
**Estradiol** (an estrogen)  
**TSH** (thyroid function)  
**Sex Hormone-Binding Globulin (SHBG)**

**NEW  
&  
IMPROVED**

**NOW  
INCLUDES  
SHBG!**

#### LIPID PROFILE

**LDL** (low-density lipoprotein) calculated  
**HDL** (high-density lipoprotein)  
**Triglycerides**  
**Total Cholesterol**

#### CARDIAC MARKERS

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

#### METABOLIC PROFILE

**Glucose**  
**Kidney function tests:** creatinine, BUN, uric acid, BUN/creatinine ratio  
**Liver function tests:** AST, ALT, LDH, GGT, bilirubin, alkaline phosphatase  
**Blood minerals:** calcium, potassium, phosphorus, sodium, chloride, iron  
**Blood proteins:** albumin, globulin, total protein, albumin/globulin ratio

#### COMPLETE BLOOD COUNT (CBC)

**Red Blood Cell count including:** hemoglobin, hematocrit, MCV, MCH, MCHC, RDW  
**White Blood Cell count including:** lymphocytes, monocytes, eosinophils, neutrophils, basophils  
**Platelet count**

#### CANCER MARKER

**PSA (Prostate Specific Antigen)**

### FEMALE PANEL

#### HORMONES

**Progesterone**  
**DHEA-S**  
**Free and Total Testosterone**  
**Estradiol** (an estrogen)  
**TSH** (thyroid function)  
**Sex Hormone-Binding Globulin (SHBG)**

**NEW  
&  
IMPROVED**

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#### LIPID PROFILE

**LDL** (low-density lipoprotein) calculated  
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**Total Cholesterol**

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

#### COMPLETE BLOOD COUNT (CBC)

**Red Blood Cell count including:** hemoglobin, hematocrit, MCV, MCH, MCHC, RDW  
**White Blood Cell count including:** lymphocytes, monocytes, eosinophils, neutrophils, basophils  
**Platelet count**

Non-member retail price: \$400 • Everyday member price: \$269

**Blood Test Super Sale member price: \$199 • Enjoy these savings until June 6, 2011**

To obtain these comprehensive **Male** or **Female** Panels at these **low prices**,  
**call 1-800-208-3444 to order your requisition forms.**

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

If you plan to use the result of these blood tests to assist in a medically supervised weight loss program, consider ordering the **Male or Female Weight Loss Panel** for the blood test super sale member price of \$224.25 through June 6, 2011. These panels were designed to offer additional hormones for those desiring assistance with weight loss.

Restore  
Cellular  
Energy  
with...

NEXT-GENERATION

# CoQ10

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

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

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

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

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

## 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.<sup>2,4,5</sup>

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Item #01426

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**



Item #01425

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



Item #01431

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

To order **Super Ubiquinol CoQ10 with Enhanced Mitochondrial Support**™ call 1-800-544-4440 or visit [www.LifeExtension.com](http://www.LifeExtension.com)



## IN THE NEWS

### Milestone Study To Look At Genetic Effects of Caloric Restriction

Scientists from the University of California at San Francisco, Stanford, and the Buck Institute for Age Research are teaming up to study whether calorically restricted humans manifest the same age-slowsignaling seen in calorically restricted animals.\*

The scientists wonder if humans on caloric restriction show the same benefits as animals, given many differences in genetics and the important role of lifestyle in human health. Finding the answer to this question prompted Dr. A. Janet Tomiyama at UCSF to organize some of the world's greatest scientists to join the exploration. The team includes: Nobel Prize-winning telomere researcher Elizabeth Blackburn (UCSF), Anne Brunet (Dept. of Genetics, Stanford), Elissa Epel (Psychiatry, UCSF), Pankaj Kapahi (Buck Institute for Age Research), Cynthia Kenyon, (Biophysics and Biochemistry, UCSF), Jue Lin (Biochemistry & Biophysics, UCSF), and Eric Verdin (Gladstone Institute of Virology and Immunology at UCSF).

Paul McGlothlin and Meredith Averill, of The CR Way Longevity Center, are helping the scientists identify people on long-term caloric restriction and sharing their insights into human caloric restriction practice, dietary regimens that support the biochemistry of caloric restriction, and identification of the world's healthiest caloric restrictors who will converge on San Francisco—a city appropriately famous for health consciousness—for testing.

—J. Finkel

\* <http://tinyurl.com/CRONA-2010>.

### Apple Polyphenols Extend Life Span in Fruit Fly Experiment

A recent issue of the *Journal of Agricultural and Food Chemistry* reported that the administration of apple polyphenols to fruit flies resulted in longer average life span and the increased expression of genes involved in the production of antioxidant enzymes.\*

Zhen-Yu Chen and colleagues evaluated apple polyphenols' effects on fruit flies, a common test subject in longevity experiments. Treatment with the polyphenols extended the insects' average life span by 10% and prolonged their ability to walk and climb. Apple polyphenols also reversed markers of aging and imminent death, while upregulating the genes for superoxide dismutase 1 (SOD1), SOD2, and catalase.

The study, which is the first to associate an extension of life span with consumption of apples, adds evidence to the benefits revealed in other investigations, including a study that found a decrease in heart disease risk in women who consumed the fruit.

**Editor's note:** Flies in which the genes for superoxide dismutase and catalase were knocked out failed to experience prolonged survival, indicating that apple polyphenols' life-extending mechanism is at least partly mediated by its action on these genes.



—D. Dye

\* *J Agric Food Chem.* 2011 Mar 9;59(5):2097-106.

## Study Finds Coffee Drinkers Have Fewer Strokes

An article published in the journal *Stroke* reveals the results of a study of Swedish women that found a lower risk of stroke in those who consumed coffee.\*

Susanna Larsson, PhD, and her associates evaluated data from 34,670 women enrolled in the Swedish Mammography Cohort. The women were followed for ten years, during which 1,310 ischemic strokes, 154 intracerebral hemorrhages, 79 subarachnoid hemorrhages, and 137 unspecified strokes occurred.

The researchers found a 22-25% lower adjusted risk of total stroke, cerebral infarction, and subarachnoid hemorrhage among women who drank at least one cup of coffee per day compared with those who consumed less.

“To our knowledge, only one previous prospective study has assessed the association between coffee consumption and the incidence of stroke among healthy women,” the authors write. “Given that coffee is one of the most popular beverages consumed worldwide, even small health effects of substances in coffee may have large public health consequences.”

**Editor’s note:** The dietary questionnaires completed by the participants did not differentiate between regular or decaffeinated coffee, however, the authors note that decaffeinated coffee consumption is uncommon in Sweden.

—D. Dye

\* *Stroke*. 2011 Mar 10.

## Dietary Supplement Use Common Among Specialists

Results of a survey reported in *Nutrition Journal* reveal that the use of nutritional supplements is common among specialist physicians, and that they frequently recommend them to their patients.\*

The Healthcare Professionals Impact Study surveyed 300 cardiologists, 300 dermatologists, and 300 orthopedic surgeons concerning the type of supplements used and recommended. Fifty-seven percent of cardiologists, 75% of dermatologists, and 73% of orthopedists reported personal use, and supplements were recommended to patients by 72, 66, and 91% of these specialists, respectively. Half of the physicians on average reported using multivitamins, with dermatologists leading the group. Omega-3 and fish oil supplements and botanicals including green tea were also commonly used.

The study contributes to previous findings which determined that physicians and nurses engaged in regular use of supplements in a manner similar to that of the general public and that the majority recommended them to their patients.

**Editor’s note:** Reasons given for recommending supplements to patients were dependent upon the physician’s specialty, including the recommendation of cholesterol-reducing supplements by cardiologists and bone-building nutrients by orthopedists.

—D. Dye

\* *Nutr J*. 2011 Mar 3;10:20.



## Vitamin D Insufficiency Could Play a Role in the Development of Parkinson’s Disease

In the *Archives of Neurology*, researchers report the finding of a correlation between insufficient levels of vitamin D and the development of early Parkinson’s disease (PD).\*

The study included 157 placebo recipients who participated in the DATATOP trial of men and women with early Parkinson’s disease. Blood samples obtained upon enrollment and at the final visit after 13 months were analyzed for 25-hydroxyvitamin D.

While 69.4% had vitamin D insufficiency at the beginning of the study, 26.1% were classified as deficient with levels of less than 20 ng/mL. The prevalence of insufficiency at the final visit was 51.6%, and deficiency occurred in 7%.

“We confirm a high prevalence of vitamin D insufficiency in patients with recent onset of PD, during the early clinical stages in which patients do not require symptomatic therapy,” the authors conclude.

**Editor’s note:** The authors remarked that, “Contrary to our expectation that vitamin D levels might decrease over time because of disease-related inactivity and reduced sun exposure, vitamin D levels increased over the study period. These findings are consistent with the possibility that long-term insufficiency is present before the clinical manifestations of Parkinson’s disease and may play a role in the pathogenesis of PD.”

—D. Dye

\* *Arch Neurol*. 2011 Mar;68(3):314-9.





## Long-Term Vitamin E Supplementation Associated with Reduced Risk of ALS

The *American Journal of Epidemiology* published the results of an analysis of over a million men and women that concluded supplementing with vitamin E is associated with a reduction in the risk of amyotrophic lateral sclerosis (ALS), a progressive, fatal neurologic disease.\*

Researchers at Harvard School of Public Health pooled data from five large studies for their review. Over the studies' follow-up periods, which ranged from 10 to 18 years, 805 cases of ALS were diagnosed.

A 23% reduction in the risk of the disease was found among those who used vitamin E supplements for two to four years and a 36% reduction occurred among those who used the supplements for five years or more, compared to those who did not supplement. For those whose vitamin E from diet was among the top 25% of participants, a 21% lower adjusted risk of ALS was noted.

**Editor's note:** This is the largest study to date to have examined the association between dietary and supplemental vitamin E intake and ALS.

—D. Dye

\* *Am J Epidemiol.* 2011 Mar 15;173(6):595-602.

## Short Telomeres Linked with Increased Mortality Risk Over Six-Year Period

The *Journal of Gerontology: Biological and Medical Sciences* reports the finding of Annette L. Fitzpatrick of the University of Washington and her colleagues of an association between shorter telomere length and an increased risk of dying over 6.1 years of follow-up.\*

The current study included 1,136 participants in the Cardiovascular Health Study of adults aged 65 and older. Blood samples obtained upon enrollment between 1992 and 1993 were analyzed for leukocyte telomere length. Cause was ascertained for 468 deaths that occurred over 6.1 years of follow-up.

Adjusted analysis of the data found that subjects whose telomeres were among the shortest 25% of participants had a 60% greater risk of dying over follow-up, compared with those whose telomeres were among the longest 25%. When deaths were analyzed by cause, infectious disease emerged as significantly associated with shorter telomeres, while cardiac arrhythmia was shown to have a weaker association.

**Editor's note:** The authors explain that, "Data strongly suggest that erosion of telomeres is the result of an accruing burden of oxidative stress and inflammation, which is known to be enhanced by exposure to infectious and inflammatory diseases. The significant relationship between leukocyte telomere length and interleukin-6, a biomarker of inflammation, found here and in our earlier study, supports this finding."

—D. Dye

\* *Am J Epidemiol.* 2011 Mar 15;173(6):595-602.

## Neuropathy in Extremities Caused By Old Mitochondria?

Johns Hopkins scientists recently posited in a new study that the burning, tingling pain of neuropathy may affect feet and hands prior to other parts of the body because the powerhouses of nerve cells, called mitochondria, that supply the extremities age and become dysfunctional.\* They hope this finding could lead to new ways to fight neuropathy, a condition that often accompanies other diseases including HIV/AIDS, diabetes, and circulatory disorders.

Mitochondria for most cells in the body replace themselves every month or so, but mitochondria in nerve cells often live much longer to accommodate the sometimes long journey from where a cell starts growing to where it ends.

"Our mitochondria age as we age, and they have even longer to travel in tall people," study leader Ahmet Hoke, MD, PhD, said. "In people who are older or taller, these mitochondria in the longest nerves are in even worse shape by the time they reach the feet." Hoke also noted that if this discovery is confirmed for other types of neuropathy, it could lead to mitochondria-specific ways to treat this condition. Ideally, doctors may be able to one day give a patient a drug that boosts the function of older mitochondria, thus boosting the performance of the nerve cells and reducing pain.



—J. Finkel

\* *Annals of Neurology.* 2011;69(1):100.



### More Vitamin D Could Help Prevent Lung Cancer Recurrence

Researchers report in *Clinical Cancer Research* that an enzyme elevated in lung cancer that reduces the active form of vitamin D is associated with more aggressive tumors and worse survival.\*

Nithya Ramnath, MD, and colleagues evaluated tumor samples from 86 patients with lung adenocarcinoma to determine the level of CYP24A1, which encodes an enzyme that is overexpressed in many cancers. This enzyme breaks down calcitriol (1-alpha,25-dihydroxyvitamin D3), which has an antiproliferative effect in lung adenocarcinoma. The team found that CYP24A1 expression was 8 to 50 times higher in cancerous compared to healthy lung tissue. Patients with higher levels of CYP24A1 had an increased likelihood of aggressive tumors and a 42% chance of survival after five years compared with an 81% chance for those with low CYP24A1.

Scientists are now attempting to identify compounds that block CYP24A1, which would increase vitamin D's anticancer potential and could be combined with vitamin D treatment.

**Editor's note:** Dr. Ramnath remarked that, "A natural compound like vitamin D is attractive because it has few side effects, but it's even better if we can determine exactly who would benefit from receiving vitamin D."

—D. Dye

\* *Clin Cancer Res.* 2011 Feb 15;17(4):817-26.

### Green Tea May Be Alzheimer's Disease Fighter

Recent research by scientists at Newcastle University suggests that regularly drinking green tea could protect the brain against developing Alzheimer's and other forms of dementia.\* The study was led by Dr. Ed Okello and was published in the academic journal *Phytomedicine*. In addition to its potential as an Alzheimer's fighter, the study also suggests the tea could play a vital role in protecting the body against cancer.

While hydrogen peroxide and a protein known as beta-amyloid have been known to play a major role in the development of Alzheimer's disease, past studies have shown that compounds found in green or black tea called polyphenols have neuroprotective properties, binding with the toxic compounds and protecting the brain cells.

"What was really exciting about this study was that we found when green tea is digested by enzymes in the gut, the resulting chemicals are actually more effective against key triggers of Alzheimer's development than the undigested form of the tea," explains Dr. Okello, who is based out of the School of Agriculture, Food and Rural Development at Newcastle University.

"In addition to this, we also found the digested compounds had anti-cancer properties, significantly slowing down the growth of the tumor cells which we were using in our experiments."

—J. Finkel

\* <http://www.sciencedaily.com/releases/2011/01/110105194844.htm>.

### Few Meet Definition of Optimal Heart Health

The outcome of a study recently published in the journal *Circulation* has resulted in the dismal conclusion that only one in 1,933 Americans may be meeting the American Heart Association's criteria for good heart health.\*

Steven E. Reis, MD, and his associates analyzed data from 1,933 men and women who participated in the Heart SCORE study. Surveys, examinations, and test results provided information concerning the presence of the following factors: not smoking, meeting physical activity and healthy diet goals, having a body mass index lower than 25, untreated cholesterol level of less than 200, blood pressure of lower than 120/80 mmHg and fasting glucose below 100 mg/dL.

Only one participant met all seven criteria of ideal heart health and fewer than 10% of participants had five or more components. "Of all the people we assessed, only one out of 1,900 could claim ideal heart health," stated Dr. Reis.

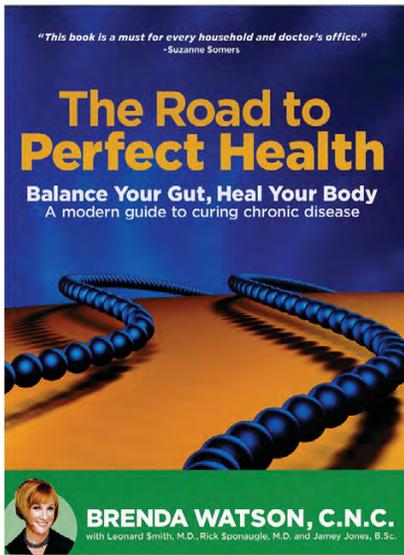
**Editor's note:** "Our next step is to analyze additional data to confirm this and, based on the results, try to develop a multifaceted approach to improve health," Dr. Reis added.

—D. Dye

\* *Circulation.* 2011 Mar 1;123(8):850-7.



BOOK REVIEW



**The Road to Perfect Health:**  
**Balance Your Gut, Heal Your Body – A modern**  
**guide to curing chronic disease**

By Brenda Watson, C.N.C. with Leonard Smith, M.D.,  
 Rick Sponaugle, M.D., and Jamey Jones, B. Sc.

Brenda Watson, C.N.C., is the author of the *New York Times* bestselling book, *The Fiber35 Diet*. She has written six books, although her newest publication, *The Road to Perfect Health: Balance Your Gut, Heal Your Body*, is more similar to a gut-brain connection bible than a book.

Watson, one of the leading digestive care experts in the United States, has compiled a book that addresses 50 common health conditions. In addition, she discusses how digestive imbalances can lead to a host of serious illnesses outside of your digestive system, and she also offers natural options that can help realign the body's digestive and overall balance.

The subtitle of the book is "A modern guide to curing chronic disease," and at first glance, it seems as though that's a lot of ground to cover in one book. Once you open the first few pages however, you see that the book is organized in such an efficient way that tackling the many issues that can be caused by poor gut function is not going to be a problem.

In fact, in the preface, Watson answers the first question that many people may be thinking when they encounter this publication: What does gut health have to do with overall sickness?

"Gut health is the core of our health. It is where we extract the nutrients from our food that feeds the cells and tissues and organs of our body. Think about it. Every bite of food we eat, every sip of liquid we drink goes to the gut first."

Using this explanation as a jumping off point, Watson leads readers into her book with the first chapter, titled: "Basics of Digestion." This is an excellent primer that explains everything from peristalsis to beneficial bacteria and gut immunity. Following this foundation of knowledge, the chapters cover nearly every system

of the body, including the brain and nervous system, the cardiovascular system, the digestive system, the endocrine system, the genitourinary system, the immune system and infections, the musculoskeletal system, the respiratory system, skin conditions, environmental conditions, and cancer.

Each chapter is then broken up into conditions that may be caused or exacerbated by poor digestive health. The conditions are explained simply, as are the signs and symptoms that go along with them. Special highlighted sections allow expert medical professionals in that particular field to discuss their experiences with a certain condition and in some cases go over a few case studies to give the reader a better idea of what they may be dealing with.

At the culmination of each section discussing a certain condition, Watson gives her bottom line assessment of the condition, as well as how to cope with it. She writes about what other illnesses you should rule out, what tests you should order to confirm this illness, and how diet and lifestyle can affect it. Following that is a table that lists the supplements to take to combat the condition, including the dosage, the benefit, and her additional comments.

For instance, if a reader has diarrhea, she recommends 10 grams of L-glutamine powder with gamma-oryzanol split into two doses on an empty stomach with water for two weeks. She writes that it helps repair and keep digestive lining healthy and that it is best taken in loose powder form for optimum contact with the esophageal lining.

This attention to detail is evident in section after section of the book, making it a must-buy for those who seek to improve their health, cure a chronic infection, or prevent one from ever manifesting.

*Comprehensive Pomegranate Protection!*

# FULL-SPECTRUM POMEGRANATE FORMULA

Few nutritional sources have gained as much scientific validation as **pomegranate**.<sup>1</sup> The vast majority of research has focused on extracts from the *fruit*. Only recently have scientists identified the synergistic action of compounds specific to other parts of the pomegranate—most notably its **seeds** and **flowers**.

## *The Next-Generation Pomegranate Formula*

**Life Extension**® offers an advanced, cutting-edge pomegranate formula that brings together novel phytonutrients for the first time in a unique, high-potency blend.

**Full-Spectrum Pomegranate**™ combines standardized extracts from the **whole fruit and flower**, along with pomegranate **seed oil**, to support system-wide health. In addition to the highly absorbable antioxidant powerhouses found in pomegranate fruit,<sup>2-4</sup> **Full-Spectrum Pomegranate**™ *augments* these polyphenols with newly discovered biologically *active* compounds from other parts of the pomegranate plant.

These little-known nutrients include: **punicanolic acid**, a member of the **triterpene** family of essential oils that provides cellular support to help with inflammation,<sup>5</sup> and **pomegranatate**, to combat age-related metabolic changes.<sup>6</sup>

This superior formula supplies the **complete** nutritional profile of the pomegranate plant. Just one softgel of **Full-Spectrum Pomegranate**™ provides polyphenols equivalent to 12.3 ounces of pomegranate juice (or 24 pomegranates) *plus* a proprietary blend of **seed oil** and **flower extract**.

One softgel of **Full-Spectrum Pomegranate**™ contains:

- POMELLA**® Pomegranate.....400 mg  
(*Punica granatum*) Extract (fruit) [std. to 30%  
punicalagins (120 mg)]
- PomComplete**™ Pomegranate .....137.5 mg  
(*Punica granatum*) Blend [flower extract and  
seed oil (standardized to 22% (30 mg) punicic acid)]

## **Full-Spectrum Pomegranate**™

A bottle containing 30 softgels of **Full-Spectrum Pomegranate**™ retails for \$24. If a member buys four bottles, the price is reduced to just **\$15.75** per bottle.

Item# 01423

Contains soybeans.





You can also obtain **Full-Spectrum Pomegranate™** in a supplement called **Endothelial Defense™** that includes a bioavailable form of **SOD** (superoxide dismutase) that helps protect vital **nitric oxide** in arterial walls. Blood vessels require nitric oxide to expand and contract with youthful elasticity. **Full-Spectrum Pomegranate™** (active constituents from fruit, flower and seed) helps boost vascular protecting factors (such as PON-1) while providing support for youthful **lipid** and **glucose** metabolism, natural **immunity**, and help with **inflammatory factors**.<sup>7</sup>

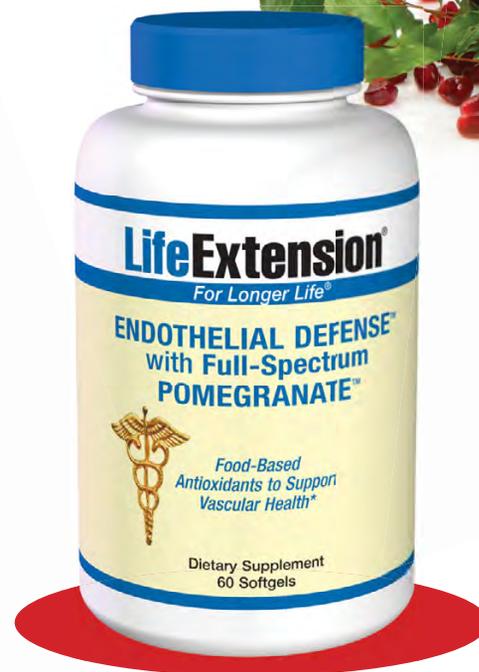
The daily serving of 2 softgels of **Endothelial Defense™ with Full-Spectrum Pomegranate™** contains:

- Superoxide Dismutase/Gliadin Complex**.....500 mg  
(GlisODin®) [SOD (Superoxide Dismutase)  
Enzyme Activity = 500 IU]
- POMELLA® Pomegranate** (*Punica granatum*)..... 400 mg  
Extract (fruit) [std. to 30% punicalagins (120 mg)]
- Pomegranate** (*Punica granatum*) ..... 100 mg  
5:1 Extract (fruit)
- PomComplete™ Pomegranate** (*Punica granatum*) .....137.5 mg  
Blend [flower extract and seed oil  
(standardized to 22% (30 mg) punicic acid)]

### **Endothelial Defense™ with Full-Spectrum Pomegranate™**

A bottle containing 60 softgels of **Endothelial Defense™ with Full-Spectrum Pomegranate™** retails for \$56. If a member buys four bottles, the price is reduced to just **\$39** per bottle. Item#01498

Contains soybeans and wheat. Contains gluten.



**To order Full-Spectrum Pomegranate, call 1-800-544-4440 or visit [www.LifeExtension.com](http://www.LifeExtension.com)**

### **Blueberry Extract with Pomegranate**

To augment the multiple benefits of blueberry extract,

**References:**

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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.

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

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

Yet most aging individuals do little to protect their bodies against the excess calories they ingest each day.

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

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

## Comprehensive Calorie Management

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

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

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

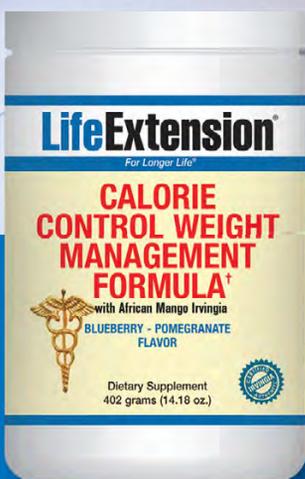
Once we accept the danger that each surplus calorie poses to our aging body, it becomes easy to understand the critical need to impede the absorption and effects of ingested foods by taking the **Calorie Control Weight Management Formula with African Mango Irvingia** before the two heaviest meals of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

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

Contains soybeans, tree nuts, and corn.  
LuraLean® is a registered trademark of AHD International LLC.  
This supplement should be taken in conjunction with a healthy diet and regular exercise. Results may vary.

**CAUTION:** Take at least two hours apart from medications. Because this product may lower blood glucose, consult with your healthcare provider before taking this product if you are taking blood glucose lowering medication. Consult your healthcare provider before taking this product if you have difficulty swallowing or have esophageal narrowing.

To order the **Calorie Control Weight Management Formula with African Mango Irvingia** today, call 1-800-544-4440 or visit [www.LifeExtension.com/calorie-control](http://www.LifeExtension.com/calorie-control)



Item #01493

# SAMe FOR BRAIN HEALTH

**Life Extension**® first introduced SAMe in 1997. Since then, researchers continue to discover impressive benefits of this versatile nutrient. Largely known for its effects on optimal mood, SAMe has also shown benefits for the liver, brain, and joints.

A recent study conducted at Harvard Medical School and Massachusetts General Hospital cited the impressive benefits of SAMe for mood elevation.<sup>1</sup>

A report published in Germany indicates that SAMe may help maintain healthy neurological function.\* The impressive results showed that:

- SAMe **increased glutathione levels by 50% and glutathione enzyme activity by 115%.<sup>2</sup>**
- SAMe **decreased a measurement of free radical activity by 46%.<sup>2</sup>**
- SAMe **inhibited lipid peroxidation by 55% in culture.<sup>2</sup>**

In addition to these findings, SAMe also improves brain cell **methylation**, thereby facilitating youthful **DNA enzymatic actions** (which may help account for SAMe's mood elevating properties). These enzymatic reactions are required for the healthy conversion of neurotransmitters such as **serotonin** and **dopamine**.



Item #00557

The good news is that **SAMe** prices continue to **plummet**. Compared to when SAMe was first introduced to the United States in 1997, Life Extension members can now obtain it for **78% less**. On an inflation-adjusted basis, the savings are even greater.

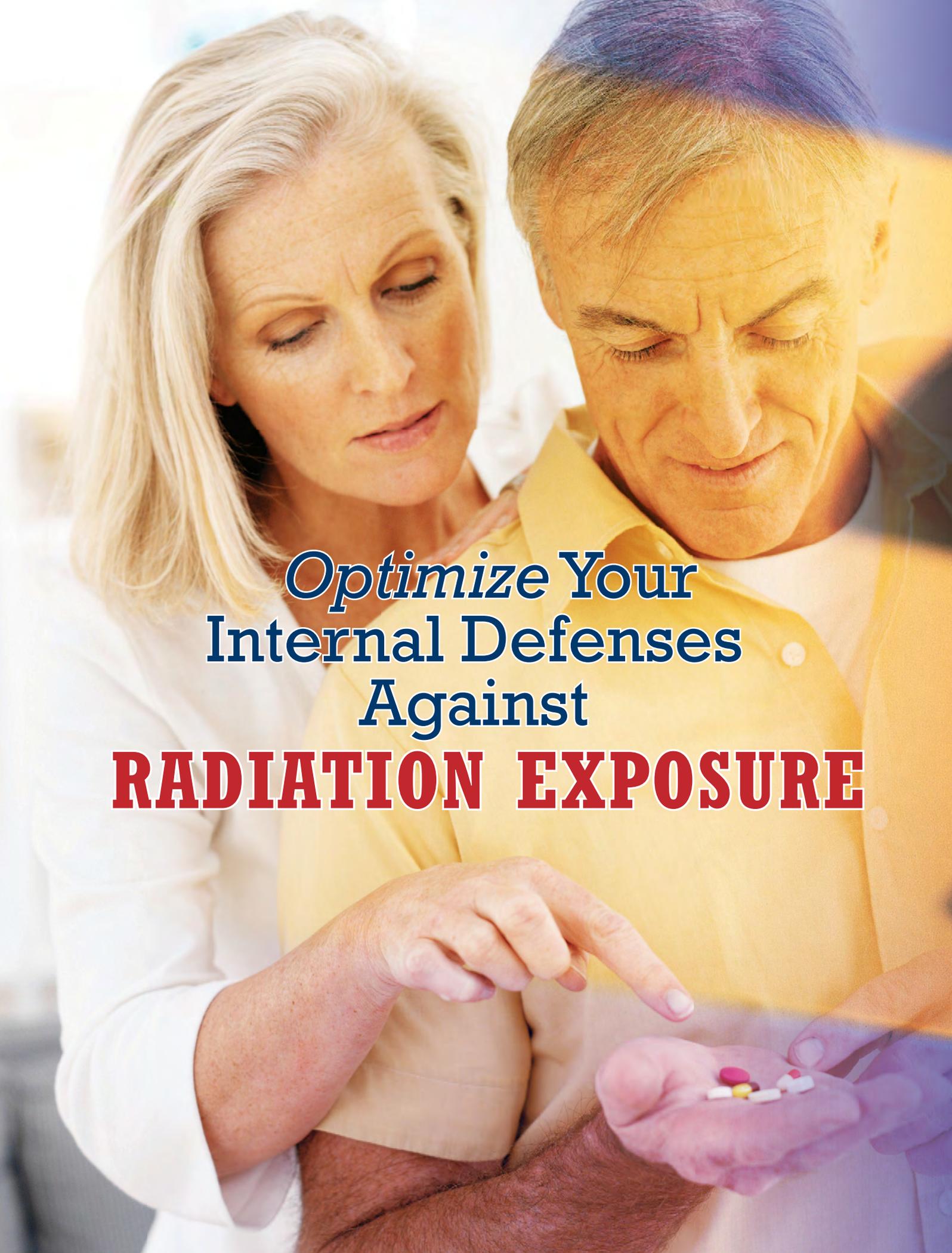
A box of 20 **400 mg** SAMe tablets retails for \$32. When a member buys six boxes, the price is reduced to only **\$18.75** a box—a **savings of 40%!**

(SAMe is also available in bottles containing 50 400 mg tablets. Retail price is \$72. If a member buys four bottles, the price is reduced to \$49.50 per bottle.) (Item #01055)

#### References

1. *Am J Psychiatry*. 2010 Aug;167(8):942-8.
2. *Naunyn Schmiedebergs Arch Pharmacol*. 2000 Jan; 361 (1): 47-52.

**To order your supply of premium-grade SAMe,  
call 1-800-544-4440 or visit [www.LifeExtension.com](http://www.LifeExtension.com)**

An elderly couple, a woman with white hair and a man with grey hair, are looking down at a hand holding several colorful pills. The woman is pointing at the pills. The background is a soft, out-of-focus indoor setting.

*Optimize Your*  
**Internal Defenses**  
**Against**  
**RADIATION EXPOSURE**

## Will the Public Heed Our Warning This Time?

BY FOSTER STEVENS

At the time of this writing, three nuclear reactors in Japan were crippled, releasing radioactive particles into the air, sea, and groundwater. A potential medical crisis has been generated—one that **Life Extension**® members were warned about long ago.<sup>1,2</sup>

Just days after the devastating tsunami struck Japan's nuclear reactors—suppliers of the radioprotective compound **potassium iodide** had no inventory left.<sup>3</sup>

The reason **potassium iodide** needs to be available for a nuclear emergency is that the most carcinogenic of the radioactive isotopes of iodine (iodine-131) can destroy thyroid tissue and cause cancer. If **potassium iodide** is taken in time, it saturates the thyroid gland with iodine so the radioactive iodine cannot easily enter.

Potassium iodide is the most important primary intervention to protect against thyroid cancer. It has long been approved by the FDA for this purpose.<sup>4</sup>

Based on our warnings dating back to **2002**, most of our members had already stocked up and were prepared in case of emergency.

Not everyone heeded our prior advice. Had there been a nuclear emergency in the United States, those without immediate access to **potassium iodide** could have been exposed to lethal amounts of radioactive iodine.

Radioactive particles damage far more than the thyroid gland, as **leukemia** and other **cancers** are elevated in those exposed to radiation. We know that radiation inflicts **free radical damage** to our cells. Fortunately, supportive data reveals many of the nutrients already taken by **Life Extension** members may *optimize* one's defenses against radiation exposure. > >



### What Are the Real Risks Americans Face from Japan?

In the **May 2002** issue of *Life Extension Magazine*®, we published an article titled “*Vindication for Linus Pauling*.”<sup>5</sup>

This article (re-printed on page 36 of this month’s issue), described a belated report from our Federal government whereby they admitted that above-ground nuclear testing that took place between 1951 and 1962 directly caused at least **15,000 cancer deaths** in the United States.<sup>6,7</sup>

If it were not for **Linus Pauling**, above-ground nuclear testing would have continued, killing thousands more Americans from what the Federal government initially claimed was “harmless” radioactive ash.<sup>5,7,8</sup>

At the time that Linus Pauling was warning about the lethal dangers of radioactive fallout, our Federal government was devising ways to have him (and others) incarcerated on pretenses that they were enemies of the state.

But it was not only above-ground testing in the United States that was causing these cancers. Above-ground nuclear testing in the former Soviet Union and on Pacific Islands used by the US and its allies was also generating radioactive particles that reached the United States.<sup>7,9,10</sup>

We know today that small amounts of radiation from the crippled Japanese reactors are being detected

in the United States.<sup>11,12</sup> Government officials state there is no danger. The track record of our government when it comes to recognizing the long-term consequences of radiation exposure, however, is quite dismal.

Since most **Life Extension** members recognize the dangers that free radicals pose to healthy tissues, they are already obtaining some degree of protection by taking nutrients that boost natural protection against radiation.

In the event that radiation levels in the United States spike, it would appear prudent to *increase* one’s ingestion of the specific nutrients that are described in this article.

### A Bacterium That Thrives Inside Nuclear Reactors!

Most people think **radiation** is toxic to all living organisms.

Not so with a bacterium called *D. radiodurans*,<sup>13</sup> whose ultra-high levels of antioxidants **superoxide dismutase (SOD)** and **catalase** enable it to thrive inside nuclear reactors.<sup>14</sup>

Radiation acutely kills by inflicting free radical damage to life-sustaining cells. Due to its naturally high **antioxidant** status, *D. radiodurans* can withstand a radiation dose that is **3,000 times greater** than what would kill a human.<sup>15,16</sup>

Delicate cellular strictures are **oxidized** in the presence of high levels of **radiation**.<sup>17</sup> Intriguing data suggests that maintaining high levels of **antioxidants** confers at least partial protection against radiation-induced free radicals.<sup>18</sup>

So while it is important to have **potassium iodide** on hand to protect the thyroid gland in case of a nuclear emergency,<sup>19</sup> maintaining high cellular antioxidant levels could add an additional layer of protection to cells throughout the body.<sup>20,21</sup>

This article first explains how **potassium iodide** protects the thyroid gland and then more importantly, describes the specific **antioxidants** and other nutrients that have demonstrated radiation-protective effects in peer-reviewed published studies.

### Potassium Iodide: First Line Defense

Thyroid cancer is the most common malignancy caused by exposure to materials released from damaged nuclear power plants.<sup>22</sup> Reactor accidents release a number of radioactive elements, the most common of which is called iodine-131.<sup>22,23</sup> Radioactive iodine is

readily absorbed into the body primarily by inhalation of contaminated air and also by ingestion of contaminated vegetation, dairy, and meat. It is rapidly taken up into the thyroid gland.<sup>24</sup> In the thyroid, ionizing radiation given off by the isotope damages DNA and causes cancer.

You can block absorption of radioactive iodine into the thyroid gland by taking a **130 mg dose** of potassium iodide not later than **2 hours after possible inhalation or ingestion** of radioactive iodine. (Note that 130 mg is the adult dosage. The dose for children ages 3-18 years old is 65 mg; the dose for children 1 month-3 years is 32 mg, and the dose for infants up to 1 month old is 16 mg.)<sup>23-26</sup>

The thyroid gland absorbs all forms of iodine equally; supplying the body with optimal amounts of iodine in the form of potassium iodide prevents *radioactive* iodine from reaching vulnerable thyroid tissue in appreciable amounts. A dose of potassium iodide taken appropriately can **reduce the risk of thyroid cancer by a factor of 3** and is the single most effective means of preventing thyroid cancer following a nuclear disaster.<sup>23,24</sup>

Keep potassium iodide tablets readily available in your home, office, and any vehicle—there is not yet sufficient supply nor production capacity to obtain them during an actual event. (Despite the Congressional legislation mandating it be available, *only* the state of Vermont has implemented a program for distributing potassium iodide to its citizens living within 10 miles of the state's nuclear facilities.)<sup>27</sup>

Potassium iodide, however, should not be taken on a regular basis as general protection. There are other nutrients, however, that have been shown to confer a *multitargeted* radioprotective benefit. They may help to maximize your body's ability to withstand the effects of ionizing radiation, the source of free radical damage that ultimately leads to radiation-induced cancer.<sup>28-34</sup>

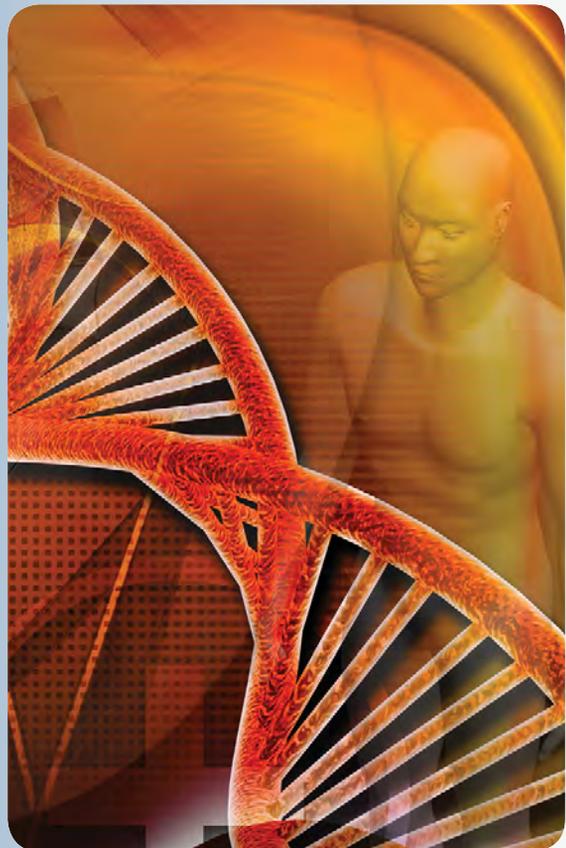
## Polyphenols

**Polyphenols** are versatile molecules found in plants. They act across a range of biomolecular pathways in the body, including favorable modification of gene expression that protects tissues from ionizing radiation.<sup>35,36</sup>

**Resveratrol**, **quercetin**, and **green tea** polyphenols rank among the best-studied and most potent radioprotectants in this class. Resveratrol is both a radioprotector in healthy tissue and also has anti-tumor activity.<sup>37,38</sup> In animal models, resveratrol has been shown to protect chromosomes from radiation-induced damage.<sup>39</sup> Its antioxidant properties prevent

## Optimize Your Internal Defenses Against Radiation

- Potassium iodide is the single most important intervention to prevent lethal damage from radiation exposure.
- For nearly a decade, Life Extension® has warned of the critical need for individuals to maintain their own supply of potassium iodide in case of a nuclear event.
- Egregious government neglect and an unenlightened public led to a worldwide potassium iodide shortage amidst Japan's ongoing nuclear disaster, creating the potential for many preventable deaths from radiation exposure.
- In addition to keeping adequate supplies of potassium iodide on hand for short-term radioprotection, **resveratrol**, **green tea polyphenols**, the soy-derived compound **genistein**, and trace minerals and antioxidants may afford long-term protection from deadly radiation exposure.





radiation toxicity to animal liver and small intestines, two tissues most immediately sensitive to radiation's ill effects.<sup>40</sup>

Quercetin and its related compounds protect lipids and proteins from otherwise-lethal doses of gamma radiation, again largely through their antioxidant properties.<sup>41</sup> Quercetin and other polyphenols not only provide chromosomal radioprotection, but also shield mitochondrial DNA from radiation-induced oxidant damage.<sup>42</sup> Quercetin also ameliorates biochemical changes in human white blood cells following radiation exposure.<sup>43</sup>

The polyphenol *epigallocatechin gallate* (EGCG), derived from green tea, also protects animals from whole-body radiation, blocking lipid oxidation and prolonging life span.<sup>44</sup> Green tea extracts can protect rapidly reproducing cells in the intestine and hair follicles from the damaging effects of radiation therapy, a form of radiation exposure far more intense than typical computed tomography (CT) doses—and one that more closely resembles the immediate effects of exposure to a nuclear plant disaster.<sup>45,46</sup>

## Soy

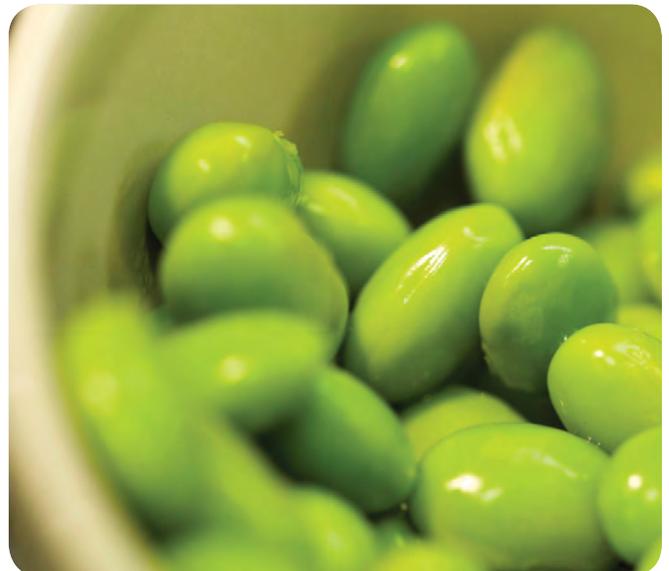
Soybeans contain a wealth of health-promoting substances, among them several with remarkable radioprotective effects. Genistein, an isoflavone, can protect mice from ionizing radiation injury after a single dose.<sup>51</sup> One mechanism is its protection against

radiation-induced lipid peroxidation, which when unchecked disrupts cell membranes and structures.<sup>52</sup> Genistein also stimulates production of red and white blood cells following whole-body radiation, again after as little as a single dose.<sup>53,54</sup> (Blood stem cells in bone marrow are among the most vulnerable to radiation's deadly effects.) Because of its powerful induction of cytokines that stimulate new blood cell formation, genistein is under intensive study as a way to protect military and civilian personnel against a potential nuclear threat.<sup>55</sup>

Soybeans also contain a radioprotective enzyme inhibitor known as the *Bowman-Birk inhibitor* (BBI).<sup>56</sup> BBI activates genes involved in DNA repair, making it among the most valuable compounds for preventing or mitigating the effects of radiation toxicity.<sup>57,58</sup> BBI also stabilizes enzymes that would otherwise produce radiation-induced arrest of skin cell growth.<sup>59</sup> Remarkably, BBI enhances survival of healthy cells, but not diseased cells, following radiation exposure.<sup>60,61</sup> BBI survives processing in commercial soybean products (e.g., soy milk, soybean concentrate, and soy protein isolates), making it a highly accessible radioprotectant.<sup>62,63</sup>

### NUCLEAR POWER STATIONS IN 2011

<b>Total Nuclear Power Reactors, Global</b>	<b>442</b> <sup>47</sup>
<b>Percent of World's Electricity</b>	<b>15%</b> <sup>48</sup>
<b>Largest Producer of Nuclear Energy</b>	<b>USA</b> <sup>49,50</sup>
<b>Number of Nuclear Plants in the USA</b>	<b>104</b> <sup>49</sup>
<b>Percent of US Power from Nuclear Reactors</b>	<b>20%</b> <sup>49,50</sup>



## Nuclear Power and Radiation Risks

It has been known since the 1940s that so-called ionizing radiation damages human DNA, causing many different kinds of cancers, most notably thyroid cancer and leukemias.<sup>22,142,143</sup> Ionizing radiation also causes immediate, catastrophic radiation sickness following short-term, high-dose exposure. Recent events at Japan's Fukushima Daiichi Nuclear Power Station serve as a grave reminder that these threats are neither futuristic nor theoretical.

There have been eight nuclear power plant accidents, each causing more than \$300 million in property damage, since 1975.<sup>144-146</sup> While the costs in human lives and long-term health from the Fukushima tragedy remain unknown, we can expect them to be substantial. The worst previous nuclear disaster, in Chernobyl in 1986, resulted in 237 cases of acute radiation sickness with 31 immediate deaths, and more than 5,400 cases of thyroid cancer in the 22 years following the accident.<sup>22,142,147-149</sup> The risk of thyroid cancer following that accident was determined to be increased by 4.5-fold in adults, 12.7-fold in adolescents, and 87.8-fold in children.<sup>142</sup>

## Curcumin and Other Plant Extracts

Compelling scientific evidence suggests that many plant extracts have valuable gene expression-modifying effects that are relevant in protecting our bodies from radiation exposure.

**Curcumin**, derived from the curry spice turmeric, exerts powerful radioprotective effects as a result of its antioxidant and detoxifying characteristics.<sup>64</sup> Curcumin supplements reduce DNA damage and tumor formation in rats; they reduce both DNA damage and lipid peroxidation in cultured human white blood cells.<sup>65,66</sup> Curcumin has "dual action." Its antioxidant effects protect normal tissue from radiation. But it also upregulates genes responsible for cell death in cancers, enhancing tumor destruction by radiation.<sup>67</sup> The result is increased survival in animals exposed to high-dose radiation.<sup>68</sup>

Together, **garlic** and **ginger** also afford significant radioprotection. Garlic's high sulfur content supports natural antioxidant systems.<sup>69</sup> Garlic extracts protect red blood cells from radiation damage by a glutathione-related mechanism.<sup>70</sup> In mice, garlic extracts

have been shown to prevent radiation damage to chromosomes in vulnerable bone marrow cells.<sup>71</sup> Via a discrete physiological mechanism, garlic extracts downregulate X-ray-mediated increases in the inflammatory nuclear factor-kappaB (NF-kB) system.<sup>72</sup> Ginger extracts boost glutathione activity and reduce lipid peroxidation by a separate and complementary mechanism.<sup>73</sup> These extracts directly scavenge a host of free oxygen and nitrogen radicals immediately following their formation by radiation.<sup>74-76</sup>

Lab studies show that extracts of ***ginkgo biloba*** reduce the effects of ***clastogenic factors***—external materials (including plutonium and other radioactive substances) that fragment or delete DNA and inflict chromosomal damage, leading to mutation and cancer proliferation.<sup>77,78</sup> This effect is so powerful that it proved useful in treating workers at the **Chernobyl** nuclear plant long *after* their exposure.<sup>79</sup> More recently, ginkgo extracts proved to protect animals' organs from direct radiation-induced damage.<sup>80</sup> Ginkgo also protected humans from cell damage following radioactive iodine treatment for hyperthyroid Grave's disease.<sup>81</sup>

**Ginseng** is another plant important in traditional medicine that confers substantive radioprotective effects.<sup>82,83</sup> A variety of ginseng extracts have been shown to protect against radiation-induced DNA damage.<sup>84-86</sup> It protects hair follicles and other rapidly reproducing (but healthy) tissues from damage by radiation.<sup>87,88</sup> Its antioxidant effects have resulted in protection of a variety of radiation-sensitive tissues, including cells in bone marrow, spleen, and testicles.<sup>82,89</sup> Ginseng's immunomodulatory effects make it especially useful in defending our bodies against the ravages of radiation injury.<sup>90</sup> A North American



ginseng extract was recently found to protect human white blood cells from DNA damage even up to 90 minutes *following* radiation exposure.<sup>91</sup> That makes it of great interest to defense and national security researchers—and to the general public in an era of concern about nuclear plant safety.<sup>91</sup>

**Silymarin**, an active compound found in milk thistle, is well known for its ability to protect liver cells from alcohol and various chemical toxins. Less well known is its power to protect liver tissue from radiation damage as well.<sup>92,93</sup> It reduces DNA damage and extends survival in animals exposed to dangerous levels of radiation.<sup>94</sup> Silymarin's free radical-scavenging and direct antioxidant effects are credited with producing these results.<sup>95</sup>

### N-Acetyl Cysteine

**N-acetyl cysteine** or NAC is a sulfur-containing compound that supports natural intracellular antioxidant systems, particularly glutathione, rendering it an effective radioprotective agent.<sup>96</sup> NAC minimizes liver damage from radiation in mouse models, reducing oxidative damage and resultant DNA damage—both before and after radiation exposure.<sup>97,98</sup> By a separate underlying mechanism of action, NAC stimulates release of cytokines known to protect bone marrow against radiation injury.<sup>99</sup> NAC also protects bone marrow cells from radiation, largely by preventing DNA damage.<sup>100,101</sup> A multi-compound mixture including vitamins C and E plus NAC significantly increased 30-day survival of mice exposed to a potentially lethal dose of X-rays.<sup>102</sup> Remarkably, the effect was the same whether the supplement was given before or after the exposure.



### S-adenosylmethionine (SAdMe)

Like NAC, S-adenosylmethionine (SAdMe) is a powerful compound essential for maintaining cellular levels of glutathione.<sup>103,104</sup> Enzymes vital for DNA repair (and hence cancer protection) can't function properly in the absence of methyl donors such as SAdMe.<sup>105</sup> In early 2010 we learned that ionizing radiation suppresses SAdMe levels in animal models.<sup>106</sup> Increasing the animals' SAdMe levels, on the other hand, minimized DNA damage from ionizing radiation.<sup>106</sup>

### Antioxidant Vitamins

The "ACE" vitamins (A, C, and E) offer proven antioxidant protection as a result of their molecular structures. High intakes of these vitamins and other antioxidants have been shown to protect airline pilots from radiation-induced chromosomal damage,<sup>107</sup> an occupational hazard for those who work at high altitudes. ACE supplements have been proposed as "space foods" to protect astronauts from high radiation levels.<sup>108</sup>

**Beta-carotene**, the precursor of vitamin A, was first used clinically in the wake of the Chernobyl nuclear accident as a first-line treatment for children from the region. Supplementation reduced the amount of radiation-induced oxidized lipids.<sup>109</sup> More controlled animal studies showed that vitamin A could reverse radiation-induced gene expression abnormalities that could lead to cancer.<sup>110-112</sup> Other studies show that vitamin A ameliorates other radiation effects and enhances death of cancerous cells.<sup>113</sup> Still other studies reveal that vitamin A can actually prevent radiation-induced death of healthy cells.<sup>114</sup>

Vitamin C, together with natural antioxidant systems such as glutathione, helps protect DNA and chromosomes from oxidative damage.<sup>115-117</sup> Vitamin C also inhibits radiation-induced death of human blood cells through modulation of protective gene expression.<sup>118</sup> Remarkably, vitamin C can counteract radiation-induced "long-lived radicals" (LLRs) that destabilize chromosomes and induce cancerous mutations.<sup>119</sup> The ability to counter both classical radicals and LLRs may be vital in preventing genetic damage from radiation.<sup>119</sup>

Like vitamin C, vitamin E quenches free radicals once they form, reducing their toxicity, an effect vital in radioprotection.<sup>28</sup> Importantly, vitamin E enhances the growth-inhibiting effect of radiation on cancer tissue while simultaneously protecting normal cells.<sup>120</sup> Animal studies show that vitamin E significantly

protects mice from dying after exposure to otherwise lethal levels of gamma rays.<sup>121</sup> Intriguingly, this effect is the result of modulation of cytokines; it is accompanied by valuable increases in new blood cell formation suppressed by radiation.<sup>121,122</sup>

A remarkable study among X-ray technicians reveals just how powerful antioxidant vitamins can be. Radiology technicians are nominally protected by elaborate shielding, but they're still exposed to unnaturally high levels of radiation over the course of a lifetime. As a result, they tend to have higher levels of tissue oxidation. But when a group of techs was supplemented with vitamins C (500 mg) and E (150 mg) daily for 15 weeks, their markers of tissue oxidation plummeted, and their levels of natural antioxidants (such as glutathione and glutathione peroxidase in red blood cells) rose significantly.<sup>123</sup>

### Lipoic Acid

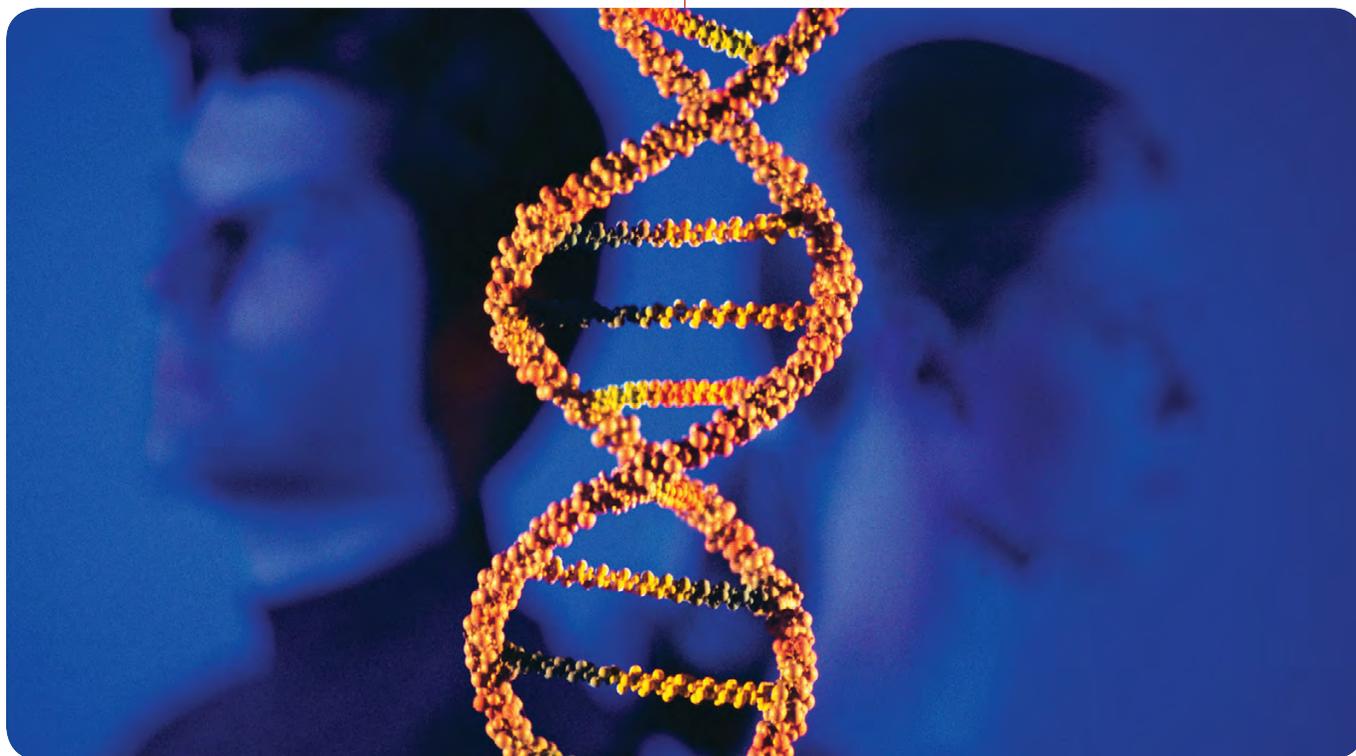
Lipoic acid is often referred to as the “universal antioxidant” because it quenches free radicals in both aqueous and lipid-soluble environments, such as cellular membranes.<sup>124</sup> Lipoic acid exists in two mirror-image forms: R-lipoic acid and S-lipoic acid. While most commercially available products contain a 50:50 mixture of the two forms, only R-lipoic acid is produced by life processes and is thus likely to be the more potent of the two.<sup>125,126</sup> Compelling

evidence suggests that lipoic acid may offer important protection against the threats posed by various types of radiation exposures.

When used in combination with other antioxidants including selenium, vitamin C, vitamin E, N-acetyl cysteine, and coenzyme Q10, lipoic acid helped improve survival of mice following total-body irradiation. This study was particularly noteworthy because the antioxidant combination was effective even when administered 24 hours after a dose of radiation exposure that is often lethal.<sup>127</sup>

Lipoic acid shows benefits for supporting the immune health of individuals who were involved in the clean-up of the Chernobyl nuclear accident, even years after the event. Eleven to twelve years after the Chernobyl clean-up, study participants received 600 mg of lipoic acid daily for two months. Signs of general immune health improved, and white blood cells called neutrophils demonstrated an improved ability to ingest invading cells and cellular debris.<sup>128</sup>

Radiation therapy as a component of cancer treatment frequently causes adverse effects on skin health such as swelling and a sunburned appearance. When animal skin cells were incubated with lipoic acid, they experienced less cell injury, compared with skin cells that received radiation but no lipoic acid. These promising findings suggest that lipoic acid may have important applications in preserving skin health in individuals who must undergo cancer radiation therapy.<sup>129</sup>



## Trace Minerals

Your body's internal antioxidant defenses, including **superoxide dismutase**, **catalase**, and **glutathione peroxidase** all depend on trace minerals as cofactors for their function. **Zinc** and **manganese** are of particular importance for sustaining whole-body resistance to ionizing radiation. Zinc supplements have been shown to protect rats from oxidative damage to their red blood cells induced by radioactive iodine.<sup>130,131</sup> And a zinc supplement protected bone marrow, but not tumor cells, from radiation-induced damage.<sup>132</sup> Since mitochondria produce huge amounts of free radicals, they are especially susceptible to radiation damage. Both zinc and manganese provide powerful mitochondria-specific radioprotection in animal studies.<sup>133</sup>

## Other Potent Radioprotective Nutrients

Most nutrients with powerful antioxidant activity can be expected to protect you against radiation exposure from medical tests and from temporary increases in radiation in the environment.<sup>134</sup> In addition to those already examined, there's good evidence for radioprotection by **spirulina** extracts, which protect bone marrow cells from DNA damage.<sup>135</sup> **Melatonin** also protects dividing cells and circulating blood cells from chromosomal injury by radiation.<sup>136,137</sup> **Licorice** extracts block DNA damage and protect cellular organelles from radiation.<sup>138</sup> The **Indian gooseberry** (*Emblica officianalis*) increases survival time



and reduces mortality of mice exposed to whole-body radiation.<sup>139</sup> Effects include protection against lipid peroxidation and protection of rapidly-dividing cells in the intestine.<sup>140</sup> Carnosic acid and other **rosemary extracts** protect against DNA damage through their antioxidant activity, both before and after radiation exposure.<sup>141</sup>

## Summary

Potassium iodide is the single most important intervention to prevent lethal damage from radiation exposure. Life Extension® long ago warned the American public to keep supplies of potassium iodide on hand in the event of a nuclear catastrophe. Not everyone heeded our warning.

As we predicted, the world's leading potassium iodide makers failed to maintain adequate supplies and ran out amidst Japan's ongoing nuclear disaster. In addition to keeping adequate supplies of potassium iodide on hand for short-term radioprotection, there exists a broad array of scientifically-validated nutrients that may optimize your body's natural defenses against radiation 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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Reprint from *Life Extension Magazine*®, May 2002

# VINDICATION FOR LINUS PAULING

BY WILLIAM FALOON

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A new government study says that radioactive fallout from nuclear weapons testing has caused at least 15,000 cancer deaths in the United States. This report was prepared as a joint effort by the National Cancer Institute and Centers for Disease Control and Prevention. Here is a chilling revelation from this report:

“Any person living in the contiguous United States since 1951 has been exposed to radioactive fallout, and all organs and tissues of

the body have received some radiation exposure.”

For those who don't know, more than 2,000 nuclear tests have been conducted worldwide since the first nuclear bomb was built. The latest government report considered only above-ground tests that took place between 1951 and 1962. This study uncovered intense radioactive “hot spots” in the continental United States all the way from California and Washington to Vermont, New Hampshire, and North Carolina.<sup>1</sup>

This report of 15,000 cancer deaths, however, is but preliminary. The full study is still being withheld from the public. Critics are accusing the Federal government of slowing the release of this information to minimize the consequences.

For decades, the Federal government contended that radioactive fallout from nuclear testing was harmless. Government propaganda films in the 1950s even showed American children playing in fresh radioactive ash to demonstrate that it was as “safe as snow.”<sup>1</sup>

Now that the lethal consequences of the government's deceit are being exposed, we commemorate the scientist who risked imprisonment for organizing protests that eventually caused the United States and [the former] Soviet Union to ban above-ground nuclear testing.

## Linus Pauling: The Scientist

Linus Pauling is the only person to ever win two undivided Nobel Prizes. *The New Scientist* magazine ranked Dr. Pauling as one of the twenty greatest scientists to ever live, an honor shared with such figures as Albert Einstein, Charles Darwin, and Isaac Newton.

Dr. Pauling's research focused primarily on physical chemistry. In 1939 he published *The Nature of the Chemical Bond and the Structure of Molecules and Crystals* and was awarded the Nobel Prize in Chemistry in 1954.

During World War II, Pauling participated in scientific enterprises deemed vital to the protection of the country. Early in the war he was a consultant to the National Defense Research Commission and later became a member of the Research Board for National Security. For his contributions, which included work on rocket propellants, on an oxygen deficiency indicator for pressurized space, such as that in submarines and aircraft, and on a substitute for human serum in medical treatment, he was awarded the Presidential Medal of Merit in 1948.

Pauling's interest in the “behavior” of molecules led him from physical chemistry to biological chemistry. Dr. Pauling's research into amino acids resulted in the development of the first substitute for blood plasma.

In 1950, Dr. Pauling constructed the first satisfactory model of a protein molecule, a discovery that has implications for the understanding of the living cell. He studied and published papers on subjects as diverse as the effects of blood cell abnormalities, the relationship between molecular abnormality and heredity, the possible chemical basis of mental retardation, the functioning of anesthetics, the relationship of vitamin C deficiency to heart disease, etc.

Many of today's scientific and medical breakthroughs emanate from Linus Pauling's pioneering research in the fields of both physical and biological chemistry.

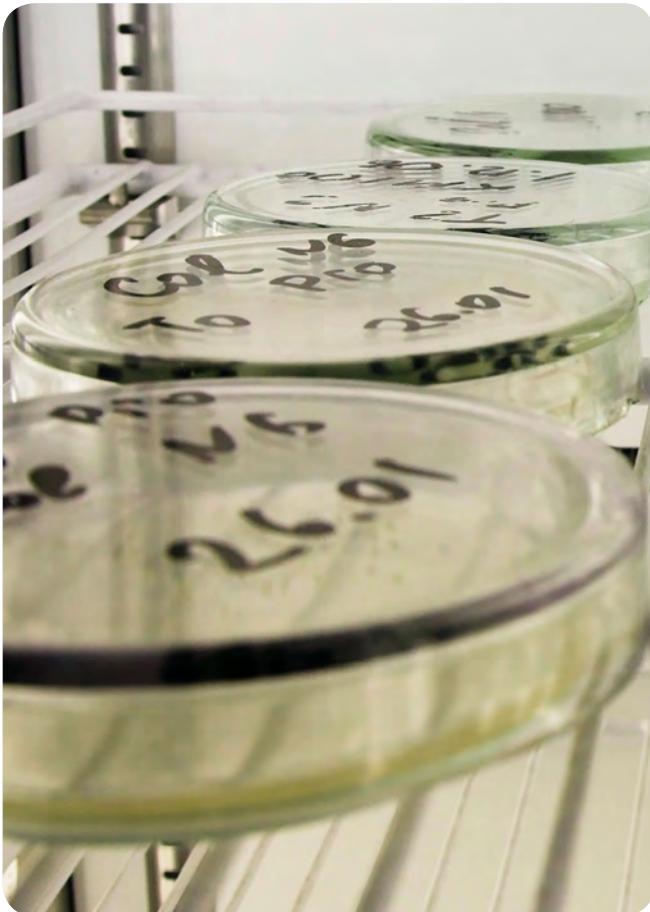
## How Linus Pauling Got into Trouble

Linus Pauling knew that radioactive fallout-generated free radicals would cause cancer and other diseases in humans. Pauling joined with Albert Einstein and five others to form the Emergency Committee of Atomic Scientists. Their mission was to inform the

public about the dangerous consequences that nuclear weapons and nuclear testing held for civilization.

In 1957, Pauling wrote a scientific appeal petition calling for a nuclear test ban treaty and distributed it throughout the scientific community. He soon gathered over 9,000 signatures from 49 countries, including 2,000 American scientists. In 1958, Pauling presented the petition to the Secretary-General of the United Nations, announcing that it represented the general consensus of the world's scientists and their plea for a ban on future nuclear testing.

Pauling gave hundreds of lectures against nuclear weapons testing and war. Unfortunately, he toured during a time of heightened Cold War suspicions and was marked a Communist supporter. The Federal government refused to give Pauling a passport, thus denying him the opportunity to attend international scientific conventions. Pauling was twice subpoenaed to appear before congressional committees investigating anti-American activities to declare that he was not a Communist. On October 11, 1960, Pauling was threatened to be held in contempt of Congress because he refused to reveal the names of those who helped circulate his petition to ban nuclear testing.



Despite unrelenting governmental oppression, Pauling remained undaunted and continued his crusade by writing a draft resolution for a nuclear test ban treaty. He sent letters and copies of his resolution to both President Kennedy and Premier Khrushchev. The two superpowers eventually agreed on a limited test ban treaty, one that was strikingly similar to Pauling's. The treaty went into effect on October 10, 1963, the very day it was announced that Pauling was to receive his second Nobel Prize.

### Too Far Ahead of His Time

By disseminating his knowledge about the lethal dangers of radioactive fallout, Pauling became a target of government persecution, harassment in the press, and charges of working for the enemy. He could have been jailed for refusing to provide Congress with the names of those involved in gathering more than 9,000 signatures for the scientific petition to ban above-ground nuclear testing.

We are now learning that the government knew about the effects of above-ground nuclear testing, but covered it up. In the 1950s for example, government officials notified suppliers of photographic film of expected fallout patterns so they could protect their film, but did not share the information with milk producers. Many children drank this radioactive contaminated milk.

A 1997 report by the National Cancer Institute indicated that farm children who drank goats' milk in the 1950s in high fallout areas were as severely exposed as the worst exposed children after the 1986 Chernobyl nuclear plant accident. Death rates from leukemia and other cancers, and diseases caused by the Chernobyl accident, are estimated to kill tens of thousands in the future.<sup>2</sup>

Environmental groups are calling for the US government to expand its compensation program for test site "downwinders" to include hot spots thousands of miles from the test sites, and to formulate and implement a comprehensive response to the public health threat posed by the fallout.

This preliminary report about the lethal effects of nuclear testing has alarmed some members of Congress, including Sen. Tom Harkin of Iowa. "What we know is maybe the tip of the iceberg here," Harkin said. "We know that there's been upwards of perhaps 15,000 deaths that are attributable to these nuclear tests." Congress received the preliminary report last August. The report was endorsed by the prestigious Institute for Energy and Environmental Research, but the government has yet to formulate a public health response.

### Comment from *The New York Times*, February 28, 2002

Dr. Linus Pauling's warnings of the increased incidence of cancer due to the fallout from atmospheric atomic weapons testing & the emissions of fission reactors were largely ignored by the mainstream media during his lifetime. Finally, in 1997, 40 years after his petition to the United Nations was denounced as "pro-communist," the US National Cancer Institute announced that large numbers of people, especially children, were exposed to dangerous levels of radiation from fallout. The damage done by the US, British, & USSR testing until 1963, of testing by France & China and, more recently, by Pakistan, India, et al, dispersed vast amounts of long-lived radioactive materials into the atmosphere. Since much of this consists of elements such as iodine, cesium, strontium, etc., which falling into the oceans, are ingested by oceanic organisms such as algae, plankton, etc. &, falling onto the ground, are taken up by grazing animals such as sheep & cattle, it becomes increasingly concentrated the higher it goes up the food chain. While we have until now managed to avoid the catastrophe of nuclear war, it appears that those responsible for protecting the security of our respective nations have, in fact, poisoned life on Earth for years to come.



"People have a right to know if they were exposed, where the big areas of fallout were, and they need to be screened and told what to do to protect their health," Senator Harkin said.

It is interesting to note that what Senator Harkin advocates today would have been considered heresy in the 1950s, since the government's official position at that time was that radioactive fallout was harmless.

Forty-five years ago, Dr. Linus Pauling formulated a public health response to eradicate this problem, but the Federal government chose instead to persecute this brilliant scientist and humanist so that the practice of raining radioactive fallout throughout the United States could continue.

As is too often the case, when the government makes a criminal accusation against a political dissident (in this case Linus Pauling), history later shows that it was the government itself that was involved in the sinister activities. What could be more anti-American than inflicting cancer on 15,000 innocent people?

### Linus Pauling's Theory about Vitamin C and Heart Attack

Linus Pauling never stopped taking controversial positions. In the 1960s, he began to investigate the role that vitamin C played in human health. Pauling postulated that a cause of atherosclerosis is a lifelong vitamin C deficiency.

One of the great misfortunes of human evolution, Pauling explained, was when our human ancestors lost their ability to manufacture vitamin C. Ever since proto-humans moved out of fruit- and vegetable-rich habitats, Pauling said, they have suffered great deficiencies of vitamin C. Pauling recommended that people make up for this deficiency with daily doses of vitamin C much greater than the 60 mg recommended by the government.

Pauling laid out a molecular basis to explain vitamin C's connection with lipoprotein-a, a substance whose levels in the blood have been linked to cardiovascular disease. Lipoprotein-a is also a major component of the plaques found in the blood vessels of atherosclerosis patients.

Pauling has published studies asserting that lipoprotein-a is a surrogate for vitamin C, serving to strengthen blood vessel walls in the absence of adequate amounts of the vitamin in the diet. Pauling noted that animals that manufacture their vitamin C have very little lipoprotein-a in their blood.

Pauling was convinced that high doses of vitamin C could help prevent the onset of cardiovascular disease, inhibiting the formation of disease-promoting lesions on blood vessel walls and perhaps decreasing the production of lipoprotein-a in the blood.

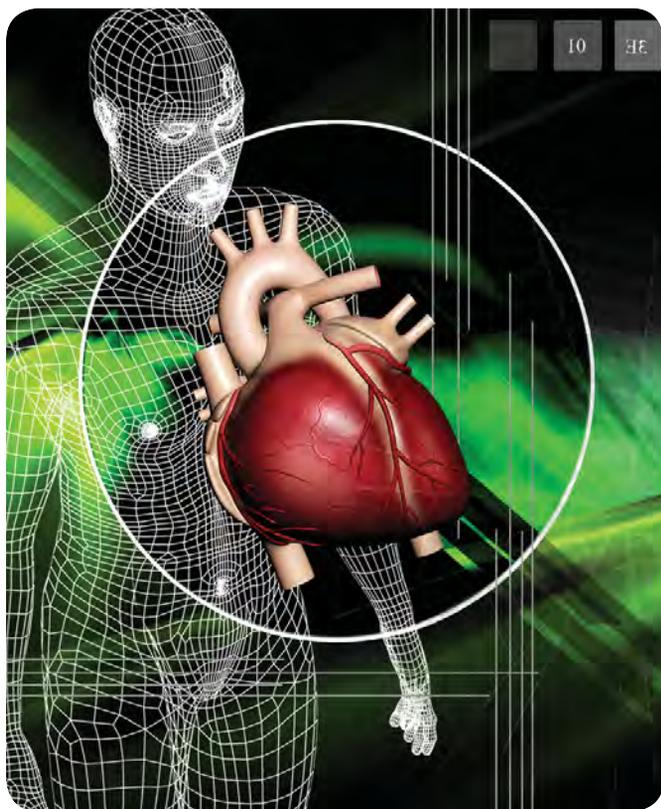
Linus Pauling's position on vitamin C once again put him under intense criticism, this time from the medical establishment who asserted that vitamin C had nothing to do with heart attack risk.

### Linus Pauling Again Exonerated

Over the past 12 years, a large volume of published studies has supported Linus Pauling's position on the role of vitamin C and heart disease. Many of these studies look at the beneficial effects that vitamin C has on the arterial wall, but what is most impressive are human epidemiological studies showing that people with high levels of vitamin C live longer and suffer fewer heart attacks compared to those with low vitamin C.

One of the first human studies that substantiated the benefits of vitamin supplements was announced in 1992 and showed that men who took 800 mg a day of vitamin C lived six years longer than those who consumed the FDA's recommended daily allowance of 60 mg a day. This ten-year study, published in the journal *Epidemiology*,<sup>3</sup> showed that high vitamin C intake extended average life span and reduced mortality from cardiovascular disease.

A compelling report that high-potency supplements extend life span in humans was published in the August 1996 issue of the *American Journal of Clinical Nutrition*. This study involved 11,178 elderly people, who participated in a trial to establish the



**The only reason Linus Pauling was not thrown in jail for promoting the benefits of vitamin C is that he did not sell it. Before 1994, the FDA prohibited distributors of vitamin supplements from making health claims.**

effects of vitamin supplements on mortality. When the effects of vitamin C and E were compared, overall mortality was reduced by 42%. What made these findings significant was that the study compared people who took low potency "one-a-day" multiple vitamins to those who took higher potency vitamin C and E supplements. Only the participants taking high-dose vitamin C and E supplements benefitted.<sup>4</sup>

A study published in the *British Medical Journal* evaluated 1,605 randomly selected men in Finland aged 42 to 60 years between 1984 and 1989. None of these men had evidence of pre-existing heart disease. After adjusting for other confounding factors, men who were deficient in vitamin C had 3.5 times more heart attacks than men who were not deficient in vitamin C. The scientists' conclusion was, "Vitamin C deficiency, as assessed by low plasma ascorbate concentration, is a risk factor for coronary heart disease."<sup>5</sup>

In a study published last year in *The Lancet*, researchers at Cambridge University in England looked at serum vitamin C and how long people lived. People who had the lowest levels of vitamin C were twice as likely to die compared to those with the highest serum vitamin C levels. This study was based on the findings from over 19,000 people.<sup>6</sup>

### Does Vitamin C Cause Kidney Stones?

Linus Pauling came under attack by medical doctors who asserted that vitamin C caused kidney stones. Based on Dr. Pauling's molecular knowledge of chemistry, he meticulously rebutted these unfounded allegations. What Dr. Pauling lacked in the 1960s and 1970s, however, were human studies to validate that vitamin C did not increase kidney stone risk.

Dr. Pauling was exonerated again by a report from Harvard Medical School that showed no increased risk of kidney stones when evaluating 85,557 women over a 14-year study period. This report, published in the April 1999 issue of the *Journal of the American Society of Nephrology*, showed that women who consumed 1,500 mg a day or more of vitamin C were no more likely to develop kidney stones than women who consumed less than 250 mg of vitamin C a day. The study did reveal that women who consumed 40 mg or more of vitamin B6 were 34% less likely to develop kidney stones compared to women taking fewer than 3 mg a day of B6.<sup>7</sup>

The only reason Linus Pauling was not thrown in jail for promoting the benefits of vitamin C is that he did not sell it. Before 1994, the FDA prohibited distributors of vitamin supplements from making health claims.

### Can We Stop Persecuting Today's Linus Paulings?

Those with new ideas often face fierce attack by the establishment and the Federal government. A recent example was the announcement that human embryonic stem cells had been produced and that there is now an opportunity to cure many of today's lethal diseases.

You would think that the scientist who made this remarkable discovery, Dr. Mike West, would be proclaimed a hero. Instead, government leaders immediately vowed to pass new laws to make it a crime to create embryonic stem cells for therapeutic cloning purposes. In Senate hearings, scientists and people afflicted with disease are appealing to lawmakers to not ban therapeutic cloning research.

Our concern is that only a miniscule number of brilliant minds like Linus Pauling are ever born. When Linus Pauling stated that radioactive fallout caused

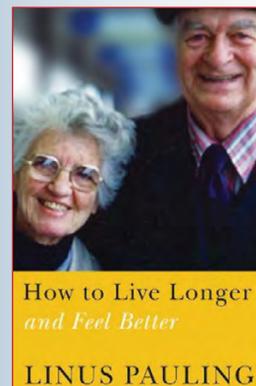
cancer in humans, he was ridiculed, persecuted and almost incarcerated. Now 45 years later, Pauling has been proven right. This vindication does nothing for the 15,000 Americans who have perished from radioactive fallout-induced cancer.

Today, there are pockets of exceptional intelligence that are stifled by bureaucratic red tape. In order to create the scientific renaissance needed to radically extend the healthy human life span, we must break down the barriers that suppress implementation of new ideas.

We as citizens and Life Extension® members must protect those brilliant minds (the Linus Paulings of today) who may be too intimidated to risk their personal freedom to bring forth the scientific truth.

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Linus Pauling's last book.

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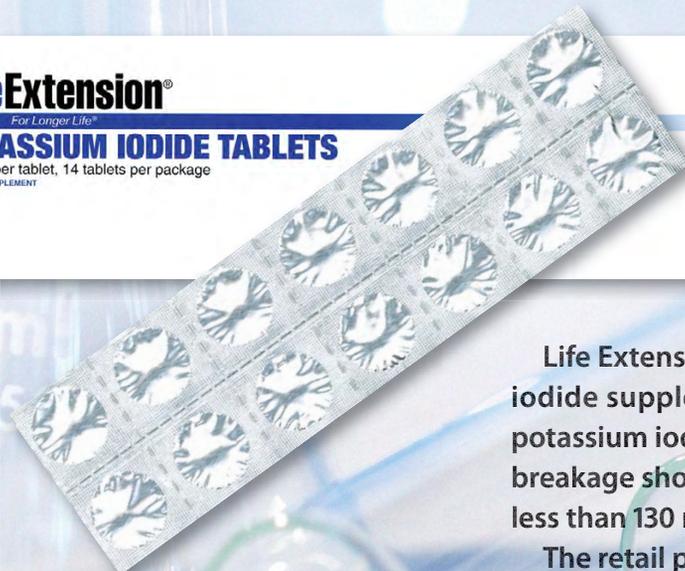


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For example, initial research funded by Life Extension showed that **resveratrol** induced many of the favorable gene expression changes observed in **calorie-restricted** animals.

We have since uncovered compelling evidence that certain compounds found in berries, such as **pterostilbene** and **fisetin**, *also* possess potent “longevity gene” activators that work in synergy with resveratrol. For example, **fisetin** (found in strawberries) has been shown to **stabilize** resveratrol in the body by shielding it from metabolic breakdown,<sup>1-10</sup> thus extending its beneficial effects.

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<b>Trans-Resveratrol</b>	<b>250 mg</b>
<b>Grape-Berry Actives</b>	<b>85 mg</b>
<b>Quercetin</b>	<b>60 mg</b>
<b>Trans-Pterostilbene</b>	<b>0.5 mg</b>
<b>Fisetin</b>	<b>10 mg</b>

Contains yeast.

Item #01430



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● INTRODUCING

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Many experts now believe that **fucoïdan** is one of the key nutrients responsible for the exceptionally long, healthy lives enjoyed in **Okinawa**, which for decades boasted the world's highest concentration of **centenarians** (individuals at least a *century old*).<sup>4-8</sup>

**Maritech® 926 fucoïdan** is sourced from hand-harvested, wild seaweed exclusively from pristine ocean waters of Patagonia (located in the southern tip of South America). A cutting-edge water extraction process ensures **fucoïdan's** delicate molecular structure is delivered intact, to provide the critical nutritional benefit of *Undaria pinnatifida*, which is the species of seaweed used in a majority of scientific studies on **fucoïdan**.

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A single vegetarian capsule of **Optimized Fucoïdan with Maritech® 926** provides **88.5 mg** of standardized *Undaria pinnatifida* extract, equaling the amount of fucoïdan typically consumed daily in the traditional Japanese diet. Most people require only one capsule daily, though aging individuals seeking to enhance the benefit may choose to take two per day.

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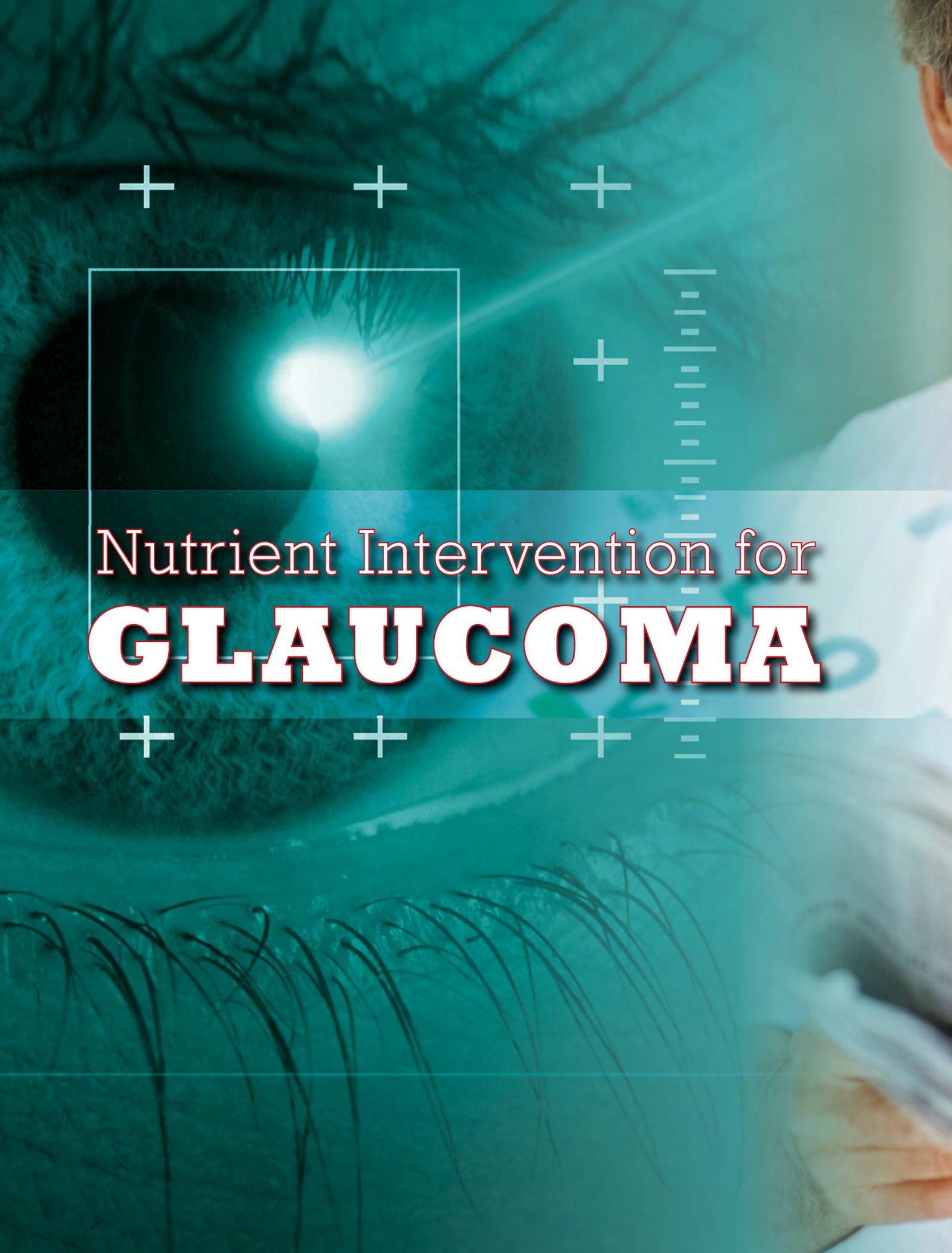
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Nutrient Intervention for  
**GLAUCOMA**



BY MATILDE PARENTE, MD

Glaucoma is the second-leading cause of blindness.<sup>1</sup> It often progresses without symptoms until it succeeds in damaging the optic nerve.<sup>2</sup> Up to **50%** of people with glaucoma remain undiagnosed,<sup>3</sup> and as many as one in ten individuals aged 80 or older are afflicted by it.

Encouraging news reveals that several of glaucoma's underlying causative factors may be prevented and even *reversed* through natural interventions, offering new hope to the millions at risk for this widespread, debilitating condition.

In this article, you will learn of a recently published human study revealing how proprietary, standardized extracts of **French maritime pine bark** and **bilberry** may effectively target the underlying mechanisms that lead to glaucoma. In a group of human subjects, these nutrients combated one of glaucoma's primary contributing factors, elevated pressure in the eyes, with reductions as much as **24%**. Even more impressive results occurred when these same nutrients were combined with standard therapy.<sup>4</sup> > >



In a recent study, researchers have found a nutrient intervention that brings us a step closer to conquering vision-robbing glaucoma, the second-leading cause of blindness worldwide.<sup>1</sup> Glaucoma is a group of diseases that silently and without warning can cause blindness or disabling vision loss that result from damage to the eye's optic nerve.<sup>2</sup>

Hope may not be far off for millions of people affected or at risk for this devastating disease. The revealing study,<sup>4</sup> reported in the May 2010 issue of *Clinical Ophthalmology*, involved 79 subjects who had elevation of the pressure within the eyes, known as **intraocular pressure** or **IOP**. Persistent and progressive IOP has been considered the single most important factor associated with the development of the most common type of the disease—**open angle glaucoma**, diagnosed in more than eight out of ten glaucoma patients.<sup>5</sup>

In the most recent study, subjects had high intraocular pressure, but did not yet show signs of open-angle glaucoma when given complete eye exams. No subjects with age-related eye disease or other generalized or systemic diseases were included in the trial.<sup>4</sup>

Subjects were randomly assigned to receive either an oral nutrient compound containing both standardized French maritime **pine bark** extract and a phenolic **bilberry** (*Vaccinium myrtillus*) extract, standard medical therapy with **latanoprost** (*Xalatan*<sup>®</sup>) eye drops, or both the nutrient compound and latanoprost drops for 24 weeks.<sup>4</sup>

Latanoprost is a synthetic agent developed to mirror in structure and function the messaging molecule prostaglandin F<sub>2α</sub> (PGF<sub>2α</sub>). Among other actions, PGF<sub>2α</sub> causes smooth muscle cells, such as those in blood vessels and the eyes, to relax or contract. Prostaglandins are used in medical therapy of glaucoma to lower pressure inside the eye. However, in part due to complications associated with its short- and longer-term use, latanoprost and other PGF<sub>2α</sub>-derived prescription eye drops are not acceptable preventive agents to halt glaucoma from developing for many people with elevated intraocular pressure or other predisposing conditions. This last limitation of the prescription medication helped generate excitement for this study, as this oral nutrient compound containing **pine bark/bilberry** has not been associated with the type of side effects seen with the prostaglandin-type drugs, such as ocular cysts, swelling, and inflammation.<sup>6</sup>

In the study, all three treatment groups showed improvement, or lowering of their intraocular pressure, which was measured carefully under protocol and in triplicate to decrease chances of random variation or error. Initially, subjects who received the prescription eye drops saw the most rapid drop in their eye pressures of **28%**, beginning at four weeks of treatment. The group that received the **pine bark/bilberry** compound began to show a statistically significant drop in intraocular pressure beginning at the sixth week of treatment that continued throughout the study period, to a **24%** reduction at 16 weeks. While the pressure drop approached the degree of intraocular pressure-lowering associated with latanoprost drops, the group given the pine bark/bilberry compound alone did not reach the exact same level of pressure lowering with latanoprost alone.<sup>4</sup>

However, the most exciting results emerged from the group that used *both* agents. This group also began showing statistically significant pressure lowering of **28%** at four weeks. However, the degree of pressure lowering at 24 weeks with both agents was **40%**, far greater than what was seen in those receiving the prescription drug alone (28%). The pine bark/bilberry compound *plus* the synthetic prescription eye drops appeared to work in synergy to amplify the lowering of intraocular pressure better than either agent alone.<sup>4</sup>

While this study did not include a control group, a prior controlled study in 38 subjects with high intraocular pressure but without evidence of glaucoma measured eye blood flow in a group that took the pine bark/bilberry compound for six months and subjects that did not.<sup>7</sup> At three months, the group taking the pine bark/bilberry compound showed statistically significant **13%** reduction in intraocular pressure and

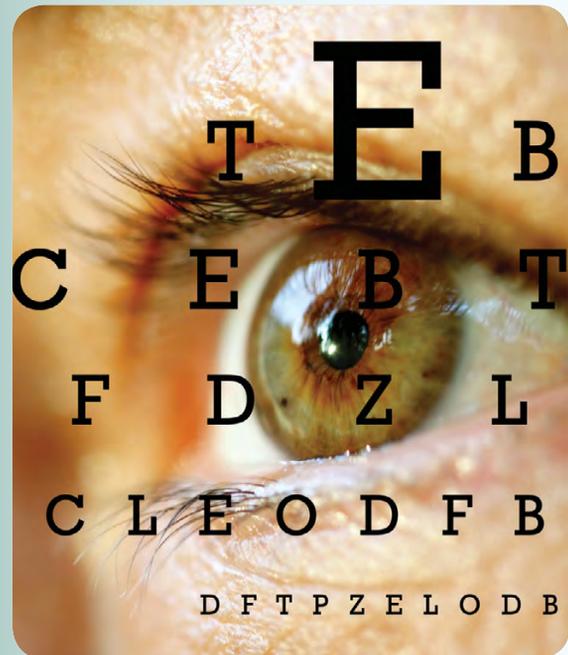
improved ocular blood flow in three different blood vessels over baseline values taken at study entry and when compared to untreated controls.

Aside from rigorous and regular eye examination by a trained professional, there currently is no accepted preventive strategy for glaucoma, and certainly not one that can be generalized or safe for large populations. Given the need for ways to prevent the progression of this sight-robbing disease, the findings in this study are very promising and call out for larger studies in broader populations.

The promising findings from the May 2010 study also add to the body of evidence pointing to a greater role of prevention in maintaining sharp vision and eye health.<sup>8</sup> This strategy recognizes that delicate eye tissues, under assault by environmental toxins, free radicals, and other cellular byproducts associated with aging, injury, and oxidative stress, can be supported or protected by nutritional or other therapeutic means.<sup>9</sup> Natural prevention takes on an added dimension in the fight against glaucoma as eye specialists recognize that high IOP may not be the defining characteristic for diagnosing glaucoma or predicting whether the disease will worsen.<sup>10</sup> It turns out that 25-50% of people with glaucoma have intraocular pressure measurements that fall within the normal range.<sup>11</sup> In addition, up to one in ten glaucoma patients who are treated with standard medical or surgical therapies may still progress to glaucoma.<sup>12</sup>

### Why Pine Bark and Bilberry Extracts?

Many prescription eye drops, including prostaglandin analogs or look-alikes such as *latanoprost*, are believed to lower pressure within the eyes by increasing fluid outflow.<sup>13</sup> Some studies have suggested that *latanoprost* may help glaucoma patients by assisting



What You Need to Know

## Nutrient Intervention for Glaucoma

- The most common type of glaucoma is an age-related, painless disease that often goes undetected and can lead to vision loss or blindness.
- While all people are at risk for glaucoma, those at increased risk include African-Americans, Hispanics, Asians, diabetics, and people 60 years of age and older.
- Many glaucoma patients are unable or unwilling to stick to a daily regimen of prescription eye drops, which can put them at greater risk for continued vision loss or blindness.
- In a first for a nutritional formulation, a combination of standardized maritime pine bark extract and standardized bilberry extract has shown promise in human studies to reduce intraocular pressure on its own and in combination with standard prescription eye drop *latanoprost* therapy.
- Newer adjunct and investigational therapies for glaucoma include neuroprotection, which may involve additional nutrient support of vascular integrity and antioxidant pathways.

## How Does Glaucoma Occur?

The **optic nerve** is a critical structure located at the back of the eye that acts as a conduit between what our eyes see and what the brain understands as sight. A healthy optic nerve comprises nerve filaments or axons that radiate from retinal ganglion cells, or the specialized nerve cells that collect and transmit electrical signals that bombard our eyes as colors, light, shapes, sizes, patterns and other imagery that the brain translates as sight.

The vision defect commonly associated with glaucoma is **tunnel vision**, a very real phenomenon that occurs when about 40% of the nerve fibers exiting the eye at the optic nerve die. In this type of permanent vision loss, nerve filaments die off because each is associated with a mother cell known as the **retinal ganglion cell**, or **RGC**. These RGCs are susceptible to injury from free radicals that result from overstimulation of receptors, particularly the N-methyl-D-aspartate (NMDA) receptor types for glutamate. Even though glutamate is one of the brain's most important stimulatory neural biochemicals, or neurotransmitters, glutamate must be regulated or cleared by healthy tissues to avoid secondary damage. As nerve filaments die off, the edge of special nervous tissue inside the eye called the neural rim thins out and the cup in which the optic nerve rests becomes larger. When this happens, a person may notice being less able to see at the edges of their field of vision, known as peripheral vision.<sup>26,27</sup> As loss of peripheral vision continues, that person may be able to clearly see only what is in the center of his or her field of vision, which produces the glaucoma-associated condition known as tunnel vision.



the eye's self-regulation, rather than by affecting blood pressure of the eye's circulation itself.<sup>14</sup>

The two active components of the pine bark/bilberry compound may act on a molecular level to decrease inflow of aqueous humor; improve microvascular tone and integrity, decrease resistance across the region of the eye responsible for fluid drainage, and possibly contribute to better fluid outflow. Each component of the pine bark/bilberry compound was chosen for its range of actions that appear particularly suited to aiding the complex balance at the level of the eye chambers.<sup>4</sup>

French maritime pine bark is a powerful antioxidant rich in proanthocyanidins, which are known for their ability to scavenge and neutralize harmful free radicals. The biologic effects of French maritime pine bark also extend to the natural agent's abilities to help regulate the cell's antioxidant network and associated genes, as well as dampen gene expression related to nuclear factor-kappaB (NF- $\kappa$ B)-dependent pathways inside cells, which have been shown to result in anti-inflammatory effects.<sup>15,16</sup>

Human studies have also shown the ability of French maritime pine bark to improve vascular endothelial function,<sup>17</sup> which involves the delicate layer of critical lining cells inside blood vessels that possess wide-ranging effects on vessel tone, integrity, inflammation, antioxidant protection, and repair. Disorders of endothelial function have also been cited as contributing factors to the development or progression of glaucoma,<sup>18</sup> which lends further support to the use of French maritime pine bark.

Microcirculation also appears to benefit from French maritime pine bark's anti-platelet actions that inhibit the formation of clots. Other studies support its promise in prevention of leg swelling and clot formation in at-risk people who travel on long flights.<sup>19,20</sup>

Interest in the benefits of French maritime pine bark grew with our understanding of the damage caused by free radicals. Mitochondrial-associated oxidative damage affects the eyes' drainage system, whose tissue integrity is essential to maintaining normal eye fluid outflow and pressure.<sup>21</sup> This understanding of the role played by faulty mitochondrial function in the development of glaucoma pointed investigators toward possible dietary solutions.

### Is a Cure for Glaucoma in Sight?

There is no cure for glaucoma. Sadly, the disease is preventable in most cases if changes associated with glaucoma are identified early, proper treatment is given and, of equal importance, the treatment is faithfully carried out by the person with the disease with appropriate follow-up by a qualified healthcare practitioner. Because glaucoma is a painless disease, it often goes undiagnosed until vision loss that cannot be restored by surgery or other therapies has already occurred. About half of people in the United States with glaucoma do not know they have the disease. Today, more than 2.2 million Americans have been diagnosed with glaucoma, a number that is expected to grow to 3 million by the end of this decade.<sup>29</sup>



Standardized bilberry extract provides the other half of the nutrient compound's one-two punch. Many studies have demonstrated the superior and efficient antioxidant and free radical-scavenging activity of bilberry and other related berry fruits, along with genetic signaling abilities that favor their use in health promotion and disease prevention.<sup>22</sup> Bilberry has also shown its might in bolstering defense systems against harmful oxidative stress. In research involving tissue from the pigmented layer of the retina, bilberry proved a potent influence on beneficial gene pathways involved in the antioxidant response effort.<sup>23</sup> In addition to a huge body of research showing bilberry's benefits in

vascular models of disease and atherosclerosis,<sup>24</sup> bilberry has also shown its protective effects in other models of inflammatory eye diseases such as uveitis, with greater protection afforded by increasing extract dosage, or the so-called dose-response.<sup>25</sup>

### Summary

Glaucoma presents a risk to everyone, from newborns to the elderly. Even with standard treatments, pressures inside the eye may continue to increase or glaucoma can advance, which often ends in progressive and irreversible vision loss or blindness.

With greater understanding of the many factors associated with development of the disease, researchers have looked to nutritional antioxidant and other related actions on cell signaling and defense to support the integrity of delicate eye tissues and support the healthy flow of eye fluids, or aqueous humor.

A dual-action compound of standardized French maritime pine bark and bilberry extract has been shown in human studies to decrease pressure within the eye by itself and even more so when combined with standard prescription eye drops. Future studies may show this compound's ability in the fight against glaucoma-associated vision loss and blindness. ●

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



## Critical Importance of Healthy Flow

The pressure inside a channel is a function of rates of fluid inflow and outflow, as well as resistance factors. Resistance may build inside channel walls itself, as occurs with stiffening of blood vessel walls and high blood pressure, or within meshlike structures through which fluid enters or exits, as in the eye. **Aqueous humor** is the name for the clear liquid that circulates in the front part of the eye. At an area of eye called the drainage angle, this fluid passes through a mesh-like structure called the **trabecular meshwork** made of cells and support tissues, or matrix. If outflow is sluggish or blocked, or if fluid flow across the meshwork is impaired by increased resistance—due to fewer cells, greater matrix buildup, or both—the fluid backup causes pressure within the eye to build, leading to increased IOP, or intraocular pressure.

Among the many antioxidant and nutritional products under study for their potential in halting changes associated with glaucoma is **resveratrol**, a natural phytochemical found in grape skins, seeds, chocolate, peanuts, and berries. Tissue culture experiments used porcine meshwork cells in a low-oxygen environment to create oxidative stress and generate free radicals and reactive oxygen species (ROS). Chronic administration of resveratrol<sup>28</sup> was associated with a significant lowering of inflammatory indicators, oxidative damage and age-related degenerative markers in trabecular meshwork cells. The experimental findings at Duke Eye Center led investigators to consider a possible role for resveratrol or other similar dietary agents to prevent changes associated with the development or progression of open-angle glaucoma, the most common type of the vision-robbing disease.

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The retail price for a box containing two 5-mL vials of **Brite Eyes III** is \$34. If a member buys four boxes, the price is reduced to **\$24 per box**.

**To order Brite Eyes III,  
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Eye support is *essential* to preventing age-related vision problems.

The older eyes get, the more susceptible they become to an array of debilitating issues that can hamper eyesight and cripple quality of life. With just a few drops of the proper eye lubricant, **eye irritation** stemming from **dryness** or **structural dysfunctions** may be alleviated.

**Brite Eyes** by Life Extension® provides a powerful dose of two well-established lubricants in every drop, soothing eye discomfort without irritation. **Hydroxymethylcellulose** and **glycerin** are FDA-approved for ophthalmic use and are uniquely preserved with potent **antioxidants** and **anti-glycating** agents.

The **Brite Eyes** formula is buffered in a way to make it **soothing to the eye**. The suggested use of **Brite Eyes III** is to apply 1 to 2 drops in each eye every day.

Each box of **Brite Eyes III** contains two individual vials that provide 5 mL each. The reason for putting **Brite Eyes** into individual vials is to reduce the risk of bacterial contamination. Having small vials also makes it convenient for consumers to keep **Brite Eyes** readily accessible at home, the office, in one's purse or pocket, and other places where access to a soothing eye drop is needed.

# Shield Your Precious Eyesight... at fantastically discounted prices!



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**Consumers often spend hundreds of dollars on just one pair of so-called “designer” sunglasses. Life Extension® members can obtain superior protection against damaging solar radiation at a fraction of the price of commercially sold sunglasses.**

Foundation members can now choose between **SolarShield®** sunglasses or **OveRxCast** polarized lenses that provide the same eye protection, plus improved vision under difficult weather conditions.

Life Extension's **SolarShield®** sunglasses are recognized as the **number-one doctor-recommended sunglass** in the world, with more than 50 million pairs sold to date. Patented **SolarShield®** sunglasses with **durable polycarbonate lenses** and **100% UV protection** fit **comfortably over prescription eyewear**, providing convenient protection from the harmful effects of ultraviolet radiation.

For those who desire the added benefit of lenses that reduce distracting glare, Life Extension's **OveRxCast** sunglasses come with **polarized gray lenses** that provide natural color definition with

**100% UV** protection. Like the **SolarShield®** sunglasses, **OveRxCast** polarized sunglasses are designed to be worn over your prescription eyeglasses.

The **SolarShield®** sunglasses retail for **\$12.99** for one pair, and the member price is **\$9.74**. If a member buys two pairs, the price is reduced to only **\$8.63** a pair.

One pair of **OveRxCast** sunglasses retails for **\$27**, and the member price is **\$20.25**. If a member orders two pairs, the price is reduced to just **\$15.75** per pair.

**To order SolarShield® or OveRxCast sunglasses, call 1-800-544-4440 or visit [www.LifeExtension.com](http://www.LifeExtension.com)**

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LIFE EXTENSION®

# EYE

## PRESSURE SUPPORT with Mirtogenol®

*Clinically Studied in Europe*

As you grow older, the fluid contained within the chambers of your eyes may gradually and *unnoticeably* increase. This has been shown to contribute to a host of unwanted age-related vision issues encountered by *millions* of aging Americans.

In a significant scientific advance, researchers have found that a proprietary blend widely available in Europe called **Mirtogenol®** may effectively *support* eye pressure already within healthy range as you age.<sup>1</sup>

### Two Potent Nutrients in One Innovative Formula

At the core of **Mirtogenol®**'s eye health-promoting power are two standardized, proprietary *phytonutrient* (plant-based) compounds: **Mirtoselect®** European bilberry extract and **Pycnogenol®** French Maritime Pine bark extract.

In a 2010 human study, Mirtogenol® induced up to a **24%** reduction in already-healthy eye pressure.<sup>1</sup>

Extracts of French Maritime Pine bark and bilberry have long been shown to promote healthy blood flow in multiple areas of the body.<sup>2-6</sup> The new **Eye Pressure Support with Mirtogenol®** formula may support healthy blood flow within the tiny vessels (*microvasculature*) of your eyes, helping to promote healthy fluid pressure inside the ocular chamber.

A daily serving of just one vegetarian capsule of **Life Extension®**'s new **Eye Pressure Support** formula contains **120 mg** of **Mirtogenol®**, delivering optimal amounts of both Mirtoselect® European bilberry fruit extract and Pycnogenol® dried French Maritime pine extract.

A bottle containing **30 vegetarian capsules** of **Eye Pressure Support with Mirtogenol®** retails for \$38. If a member buys 4 bottles, the price is only **\$25.50** per bottle.

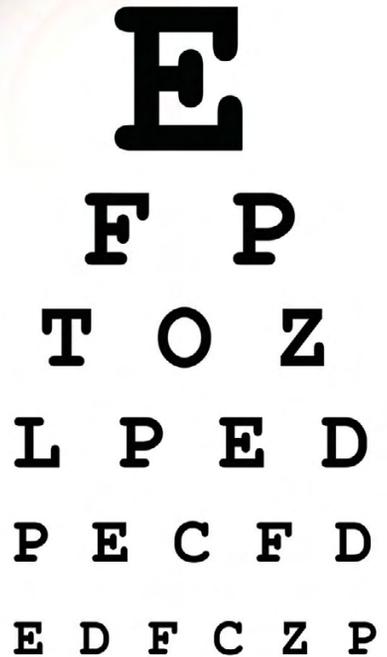
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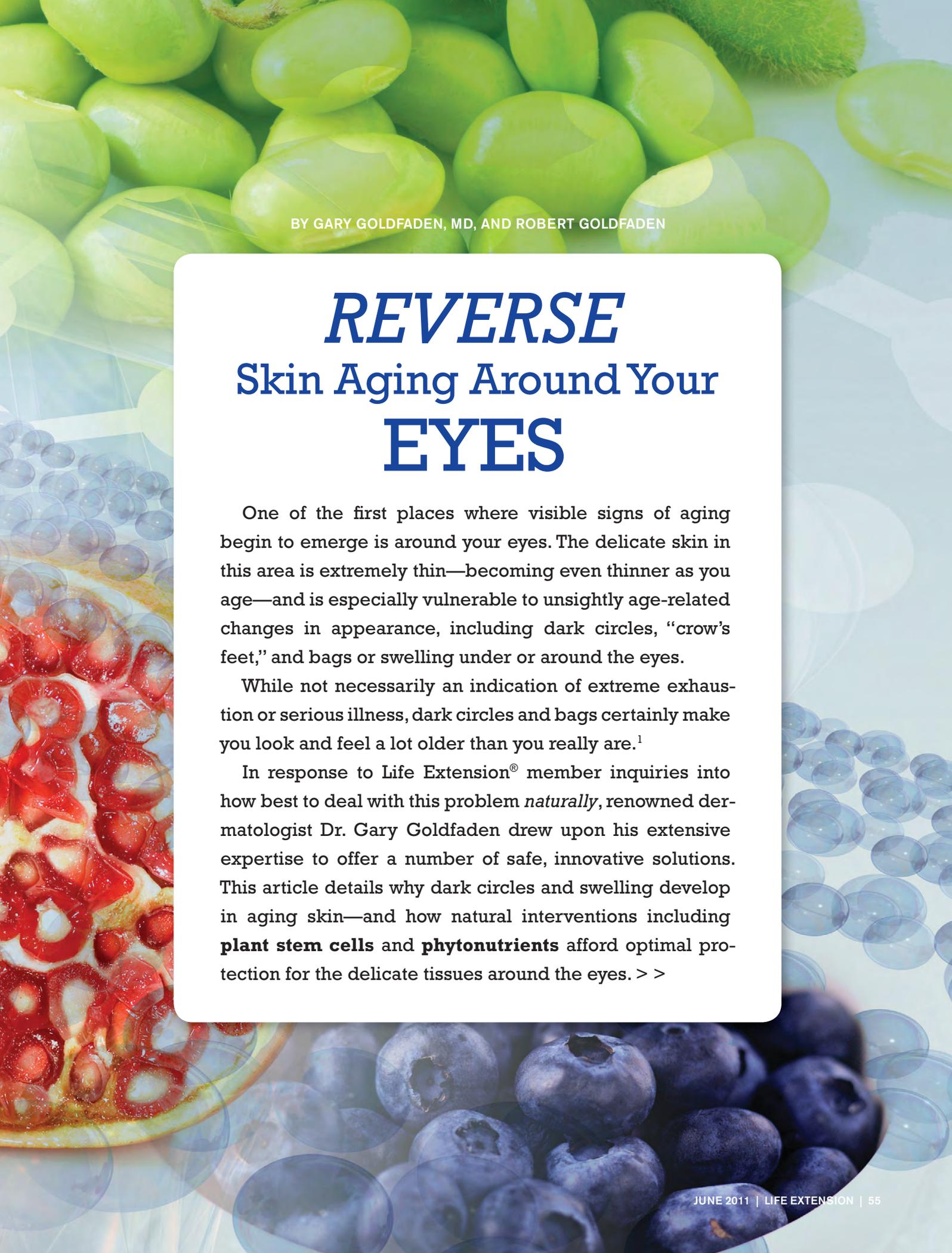
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BY GARY GOLDFADEN, MD, AND ROBERT GOLDFADEN

# *REVERSE* Skin Aging Around Your EYES

One of the first places where visible signs of aging begin to emerge is around your eyes. The delicate skin in this area is extremely thin—becoming even thinner as you age—and is especially vulnerable to unsightly age-related changes in appearance, including dark circles, “crow’s feet,” and bags or swelling under or around the eyes.

While not necessarily an indication of extreme exhaustion or serious illness, dark circles and bags certainly make you look and feel a lot older than you really are.<sup>1</sup>

In response to Life Extension® member inquiries into how best to deal with this problem *naturally*, renowned dermatologist Dr. Gary Goldfaden drew upon his extensive expertise to offer a number of safe, innovative solutions. This article details why dark circles and swelling develop in aging skin—and how natural interventions including **plant stem cells** and **phytonutrients** afford optimal protection for the delicate tissues around the eyes. > >



While Americans spend millions on cosmetics to *conceal* problems around the eyes, studies have shown that it is possible to remedy the physiological causes behind dark circles and puffiness while improving aging skin.

An active complex of nutrients consisting of soy and rice bran peptides, stem cells of a rare apple, and blueberry and pomegranate extracts can help target both dark circles and puffiness, while strengthening the skin around the eyes. This unique combination of active nutrients has also been shown to improve the appearance of fine lines and wrinkles around the eyes.

The skin differs in thickness and function across the body, and the skin around the eyes is unique for a number of reasons.<sup>2</sup> This delicate area contains little subcutaneous fat tissue that becomes less plump with aging.<sup>3,4</sup> As a result, it is especially sensitive to stress from facial movements such as laughing and squinting that contribute to wrinkle development.

The eye area is also surrounded by several muscles that contract with facial expressions. With aging, however, the thick collagen network that gives skin the structural support it needs begins to lose its integrity for a number of reasons. External factors such as exposure to sunlight increase the levels of enzymes that break down collagen in the skin.<sup>5</sup> Collagen also comes under assault from internal processes in the body. One

key factor is the destructive influence of *glycation* that occurs when simple sugars attach themselves to proteins in collagen.<sup>6</sup> The resulting *cross-linked* collagen fibers lose their flexibility and strength, resulting in looseness of skin in this area.

As a result, facial contractions in mature skin can leave a lasting impression due to a compromised collagen network. Thinning skin and loss of fat and collagen also make the skin appear thinner and more translucent<sup>4</sup> so that the reddish-blue blood vessels under the eyes become more obvious and contribute to another cause for concern—the appearance of dark circles under the eyes.

While dark circles have a hereditary component, external factors such as exposure to pollution and topical irritants also play a significant role by triggering inflammatory processes in the skin, which can also contribute to puffy eyes.<sup>5,7,8</sup> Exposure to sunlight also prompts the body to produce *melanin*, the pigment that gives skin its color, which can make the area under the eyes appear darker. In people with allergies, excessive rubbing and touching of the skin around the eyes can worsen the condition.<sup>9,10</sup>

In basic physiological terms, dark circles and puffiness under the eyes indicate a problem retaining blood in the skin's upper layers.<sup>9</sup> This is caused by poor or compromised hemodynamic properties and limited

blood flow. If left untreated or treated inappropriately, this can lead to a build-up of venous back pressure in the tiny capillaries in the skin, causing blood retention and eventually resulting in greater damage to the already compromised collagen and connective tissue. As a result, these fine capillaries can look more prominent through the under-eye area, which is very thin. As the damage worsens, the supply of oxygen to the affected area is likewise compromised. Fluid can also build up as lymphatic drainage decreases with aging and capillary permeability increases, both of which contribute further to puffiness around the eyes.

To be effective, any anti-aging eye care topical formulation needs to be gentle yet strong enough to target the factors described above. Fortunately, a number of natural skin care nutrients can reduce dark circles and puffiness and help preserve collagen integrity in this delicate area.

### Soy and Rice Bran: Targeting Dark Circles and Puffy Eyes

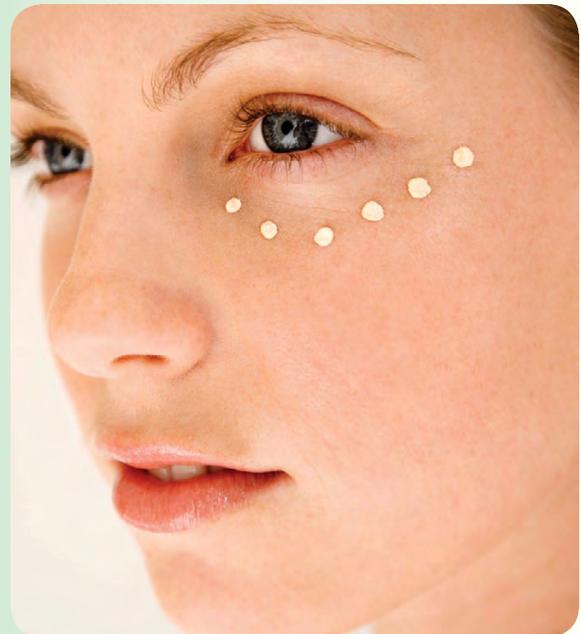
An anti-aging complex made of soy and hydrolyzed rice bran peptides has shown promising results in improving microcirculation, which prevents blood from stagnating in these fine blood vessels and increases oxygen supply to the delicate tissues around the eyes. It has also been shown to strengthen collagen integrity in the skin as well as minimize the harmful effects of inflammation, visibly reducing dark circles and puffiness around the eyes.

In a clinical study, 20 subjects aged 30 and older with dry skin and visible signs of aging applied a topical formulation comprising specially purified soy and hydrolyzed rice bran peptides twice a day for eight weeks. At the study's end, they showed significant reductions in dark circles, puffiness, and wrinkles.<sup>11</sup> These impressive results consisted of a **35%** reduction in dark circles, **32%** reduction in puffiness, and **42%** improvement of skin texture, while the placebo group showed only *marginal* improvements in these parameters.

Delving deeper for an explanation of these effects, the researchers conducted laboratory tests to study blood coagulation pathways under the skin. They showed that the complex of soy and rice bran peptides increases the time it takes for a blood clot to form. In terms of hemodynamics, this translates to a beneficial effect on the capillary circulation, or improved blood flow and oxygenation to the eye area, which explains the visible reduction in dark circles and puffiness as seen in the clinical trial. The scientists also found that in vitro treatment with this

## Hope for Aging Skin Around the Eyes

- The delicate area around the eyes is one of the first places to show visible signs of aging.
- Dark circles, puffiness, and wrinkles around the eyes can make an individual look older than their true age.
- Thin skin, compromised blood flow, and environmental factors contribute to visible changes in this region.
- Soy and rice bran extracts help improve microcirculation, reduce hyperpigmentation, and protect the skin's collagen matrix.
- Stem cells derived from a Swiss apple tree have been clinically proven to reduce wrinkle depth in the crow's feet area by 15%.
- Extracts of blueberries and pomegranate provide antioxidant protection to skin cells and may help protect against the aging effects of advanced glycation end products.
- Black, green, white, and red tea extracts provide the skin with protection against damage by UV light and oxidative stress.



peptide complex stimulated the proliferation of major skin cells by up to **200%**, which helps explain the *collagen-strengthening* benefits seen in the trial.<sup>11</sup>

Let's take a look at the individual properties of soy and rice bran peptides that contribute to these effects.

### Cutaneous Benefits of Soy

A staple of many Asian diets for centuries, soybeans and soybean products such as tofu are packed with a number of phytonutrients that provide beneficial antioxidant and anti-inflammatory effects.<sup>12</sup> Among the most notable are a group of phytoestrogens called isoflavones. Soy isoflavones have weak estrogenic effects. The isoflavone genistein shows potential to help build and maintain healthy bone density.<sup>13,14</sup>

Soy has considerable versatility beyond its application as a food ingredient. Topical soy has been shown to improve hyperpigmentation, elasticity, and moisture in the skin.<sup>15-17</sup> In laboratory studies, soy has been shown to stimulate collagen synthesis and initiate the skin's process of repairing elastin.<sup>18-20</sup>

Constituents of soy are also effective in suppressing the increase in collagen-degrading enzymes in the skin (called matrix metalloproteinases, or MMPs) that occurs in response to ultraviolet (UV) irradiation.<sup>21</sup> Topical delivery of soy extracts is

While both soybeans and rice bran have individually demonstrated impressive actions against hyperpigmentation, free radical-induced inflammation, and UV damage, the unique combination of both is even more effective than either one alone.

effective in protecting the skin against UV radiation-induced photoaging, oxidative stress, and secretion of inflammatory mediators within the skin.<sup>22,23</sup>

The benefits of soybeans are further augmented by virtue of their content of small proteins known as serine protease inhibitors, which have been suggested to regulate skin pigmentation—one of the factors implicated in dark circles.<sup>24,25</sup>

Researchers studied 65 women with moderate facial photodamage who applied either a soy or placebo moisturizer to their skin for 12 weeks.<sup>25</sup> At the end of this period, the active soy moisturizer was statistically better than the vehicle in improving mottled pigmentation, blotchiness, dullness, fine lines, skin tone, and appearance. The superiority of the active formulation was observed starting at week two. Furthermore, by week twelve, all subjects showed decreased skin roughness and increased skin clarity. The researchers concluded, *“a moisturizer containing stabilized soy extracts is safe and effective, and can be used to ameliorate overall skin tone and texture attributes of photoaging.”*



### What Makes Rice Bran Important

Like the soybean, rice bran has been highly valued in the Far East. For a long time, Japanese women who rubbed rice bran onto their faces to keep their skin smooth were referred to as “nuka bijin” or “rice bran beauty.” Given their cultural obsession for flawless skin and youth, Japanese beauty products such as rice bran have traditionally focused on anti-aging and sun damage. Now, these prized eastern beauty treatments are making their way to the west.

Rice bran is a co-product obtained from rice processing. What makes it so special is that it contains high levels of two remarkable antioxidants: gamma-oryzanol, made up of a mixture of phytonutrients called *sterols* and *ferulic acid*, and vitamin E,<sup>26</sup> which together help slow the formation of facial wrinkles and reduce inflammation.<sup>27,28</sup>

Rice extracts also have moisturizing and UV-absorbing properties, which helps prevent melanin formation and age spots, making these ingredients



effective against dark circles and sunburn.<sup>29</sup> Given its UV-protective properties, formulators have made rice bran a common ingredient in sunscreen products as well as lipsticks.

Another skin-smoothing ingredient found in rice bran is called phytic acid, which is a major component of all plant seeds. Phytic acid is an antioxidant that may help improve skin color by inhibiting tyrosinase,<sup>30</sup> a key enzyme involved in skin pigmentation.

Rice bran also contains small quantities of the powerful emollient squalene, which forms a major component of skin surface polyunsaturated lipids and is critical for reducing free radical-induced oxidative damage to the skin.<sup>31</sup>

While both soybeans and rice bran have individually demonstrated impressive actions against hyperpigmentation, free radical-induced inflammation, and UV damage, the unique combination of both is even more effective than either one alone at combating dark circles and puffiness around the delicate eye area.

### **Apple Stem Cells: Epidermal Renewal**

Epidermal cells are crucial in replacing skin cells lost due to continual shedding. Like humans, plants also have stem cells. Scientists have been keenly interested in the benefits of the fruit of a rare Swiss apple tree. When they cultivated the stem cells from this tree for its anti-aging effects, they

found that they stimulated human stem cell proliferation, protected human stem cells against UV-induced death, and mitigated aging-related changes in gene expression.<sup>32</sup>

In a clinical trial, 20 participants applied an anti-wrinkle cream containing the apple stem cell extract twice daily to the crow's feet area around the eyes. The scientists found a **15%** reduction in wrinkle depth after just 4 weeks.<sup>32</sup> This special apple extract therefore provides a valuable topical agent that helps reduce the signs of aging.

To complement all of the above botanical extracts, two other scientifically proven nutrients described below can help inhibit the *glycative* processes that cause *cross-linking* of the skin's collagen fibers.

### **Blueberries and Pomegranate: Rebuilding the Dermal Matrix**

Blueberries contain powerful constituents that complement soy and rice bran extracts by blocking the detrimental sugar-protein reactions that occur during skin *glycation*. Blueberries contain abundant quantities of phytonutrients called *anthocyanins* that have been shown in studies to naturally protect against glycation by stabilizing the collagen matrix, promoting collagen biosynthesis, and improving microcirculation.<sup>33-36</sup>

A controlled clinical study in which a preparation containing 4% blueberry extract was topically applied to the skin of 63 women aged 45-61 years found significant improvements in cracking, creping, and thinning of the skin after three months. All test subjects in this





study showed a significant improvement in fine lines, deep wrinkles, firmness, tactile roughness, and overall appearance<sup>37</sup>—factors that can all be compromised by skin glycation.

Pomegranate extract provides another layer of skin protection by virtue of its phenolic compounds such as ellagic acid.<sup>38</sup> Topically applied pomegranate extract may boost the skin's healing capacity in several ways: by inhibiting collagen-breakdown enzymes in the skin,<sup>39</sup> promoting a thickening of the epidermal layer,<sup>39</sup> and protecting against UV light and inflammation.<sup>40</sup>

### Antioxidant Support with Tea Extracts

Natural antioxidants found in white, green, black, and red tea provide complementary support for topical skin-rejuvenating nutrients. All of these tea extracts lend powerful antioxidant support, while strengthening the zone of protection against UV light and free radical-induced damage and inflammation to the under-eye area.<sup>41-44</sup>

## Summary

A special dermatologist-formulated topical preparation using stem cell technology has been shown to quickly and effectively target dark circles and puffiness around the eyes. At the core of this active botanical complex is a combination of soy and rice bran extracts that have been clinically proven to improve microcirculation, preserve elastin and collagen, and combat free radical damage in tissues surrounding the eye area. These extracts are supported by powerful phytonutrients found in blueberries, which inhibit the glycation processes that contribute to skin aging, along with natural antioxidants from pomegranate and tea extracts that strengthen skin around the delicate eye area. ●

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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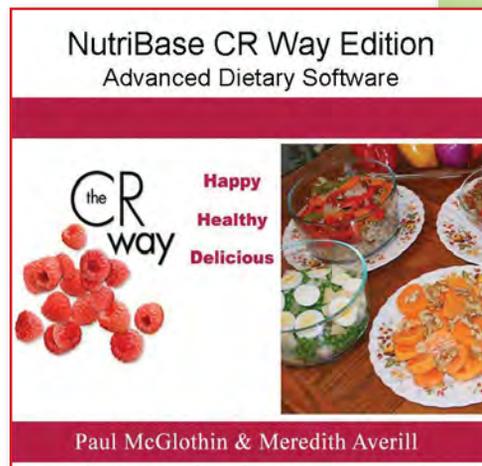
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**OPTIMAL HEALTH  
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INTRODUCING

# Advanced Under Eye Serum WITH STEM CELLS BY COSMESIS



The area of soft skin around your eyes is *highly* susceptible to the visible impact of aging, from “crow’s feet” and wrinkles to fine lines and bags. The reason? It’s thinner and more *delicate* than the skin on other parts of your face, with less subcutaneous fat to maintain suppleness as you age.

Just as important, the underlying muscles in this region *tense* each time you change facial expressions, gradually eroding the skin’s vulnerable collagen matrix. The result? Unsightly crevasses gradually replace your eyes’ youthful glow over time.<sup>1-3</sup>

## Unleash the Rejuvenating Power of Apple Stem Cells

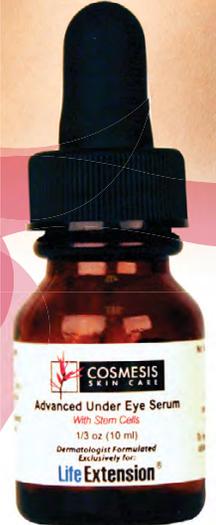
Plant stem cells work just like stem cells do in humans., i.e., they possess the regenerative ability to develop into any other type of cell.

The new **Advanced Under Eye Formula** contains stem cells drawn from a specific species of Swiss apple. These apple-derived stem cells are generating significant interest among dermatologists for their beautifying effects.

In a clinical trial,<sup>4</sup> twenty aging individuals used a cream containing this apple stem cell extract, applying it twice daily to problem areas around the eyes. After only one month, a **15%** reduction was observed in the appearance of wrinkles.

## The Moisturizing Secrets of the Far East ...

To augment these beautifying effects, moisturizing extracts of **rice bran** and **soy** are included in the **Advanced Under Eye Formula** to help keep skin soft and smooth. Women of the Far East have benefited from the age-defying and moisturizing properties of soy and rice bran for centuries. A recent study



of a soy-based compound revealed decreased skin roughness and increased skin clarity in sixty-five aging women after just **12 weeks.**<sup>5</sup>

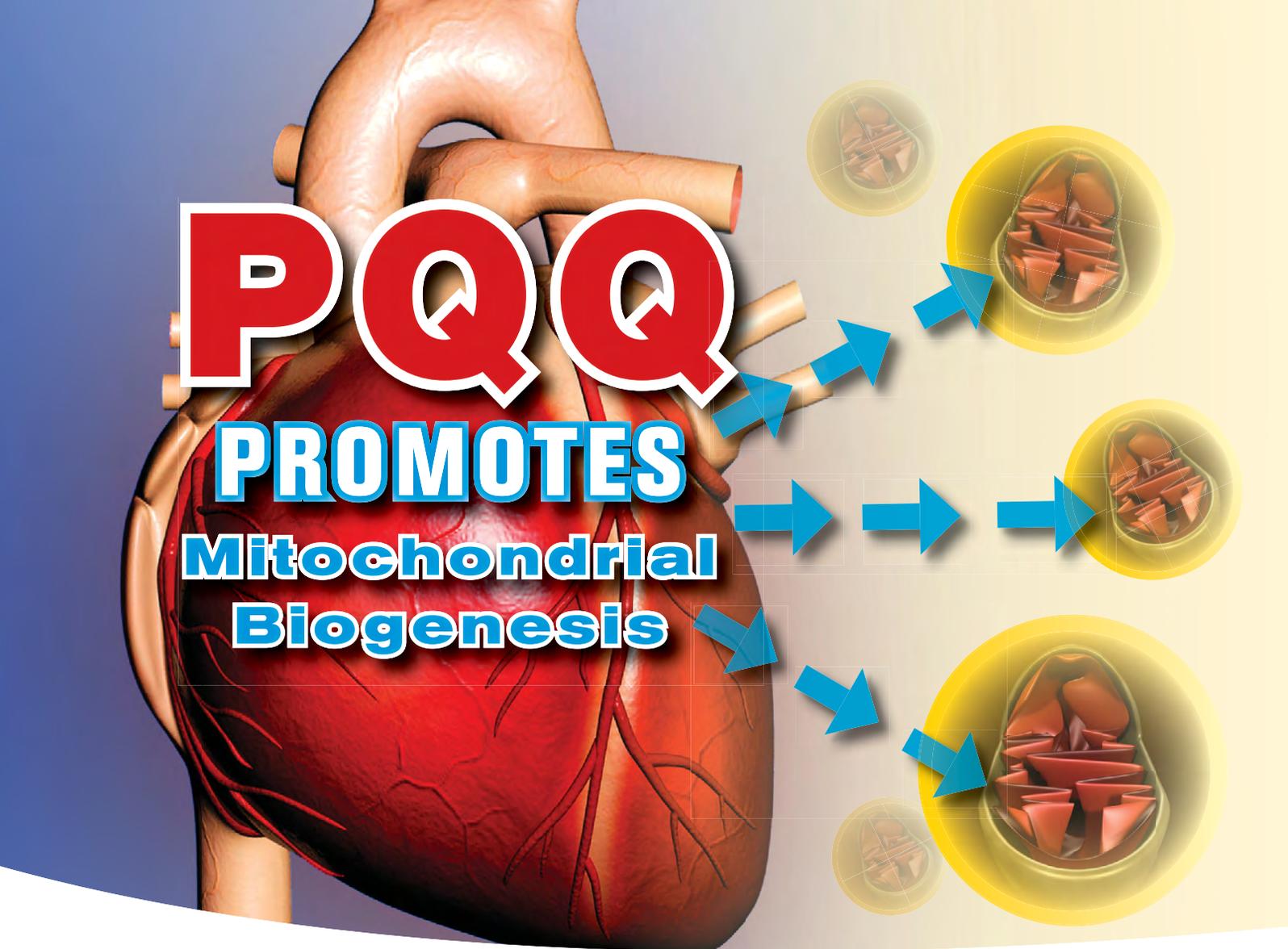
## ... Plus Ultimate Antioxidant Support

When it comes to antioxidant potency, few fruits can beat **pomegranate** and **blueberries**. They’re rich in *polyphenols* (plant-based compounds) to help support the soft skin around the eyes from the many external insults that accelerate onset of the wrinkled, papery look often seen in maturing individuals.

A .33 oz bottle of **Cosmesis Advanced Under Eye Serum with Stem Cells** retails for **\$49**. If a member buys two bottles, the price is reduced to **\$31.50** per bottle.

To order **Cosmesis Advanced Under Eye Serum with Stem Cells** call **1-800-544-4440** or visit **www.LifeExtension.com**

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# PQQ

## PROMOTES Mitochondrial Biogenesis

### Critical Importance of Mitochondria

Back in the early 1980s, **Life Extension**<sup>®</sup> was the first to introduce **CoQ10** as a proven method to enhance **mitochondrial** energy production.

**CoQ10** has since gained universal scientific recognition for its role in supporting cellular performance throughout the body.<sup>1-6</sup>

Today, a major advance in combating cellular aging called **PQQ** (*pyrroloquinoline quinone*) is being launched. In an unprecedented breakthrough, researchers have discovered that **PQQ** supports **mitochondrial biogenesis**—the spontaneous growth of **new mitochondria** in aging cells!<sup>7</sup>

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

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

**PQQ** offers a viable alternative.

## The Ultimate Cell Rejuvenator

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

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

- **Antioxidant power.** Like CoQ10, PQQ is a highly potent antioxidant. Its extraordinary molecular stability enables it to facilitate thousands of biochemical reactions in the mitochondria without breaking down, for maximum antioxidant and bioenergetic support.<sup>15</sup>
- **Favorably modulates gene expression.** PQQ activates *genes* that promote formation of new mitochondria<sup>7</sup>—and beneficially interacts with genes directly involved in mitochondrial health. These same genes also support **healthy body weight**, normal **fat** and **sugar metabolism**, and **youthful cellular proliferation**.<sup>16</sup>
- **Mitochondrial defense.** Mitochondria possess their *own* DNA, distinct from the DNA contained in the nucleus. Unfortunately, compared to nuclear DNA, mitochondrial DNA is relatively unprotected. PQQ's antioxidant potency and favorable gene expression profile act to support mitochondrial defense.

## Vital Protection for the Aging Heart and Brain

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

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

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

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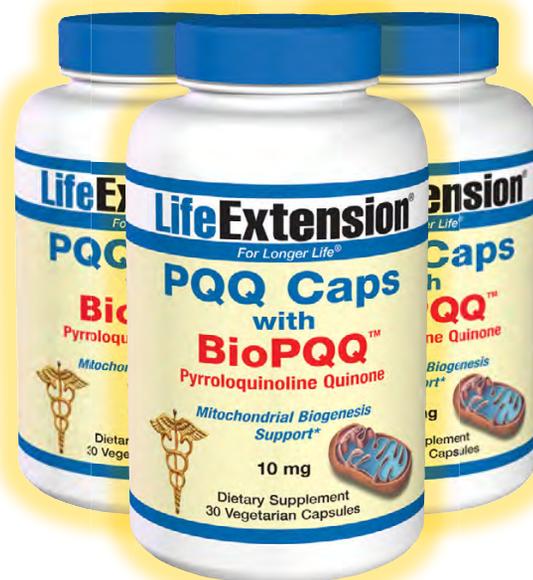
## A Breakthrough Weapon in the Battle Against Aging

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

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

A 10 mg dose of PQQ has also been added to the **Mitochondrial Energy Optimizer** and **Mitochondrial Basics** formulas.

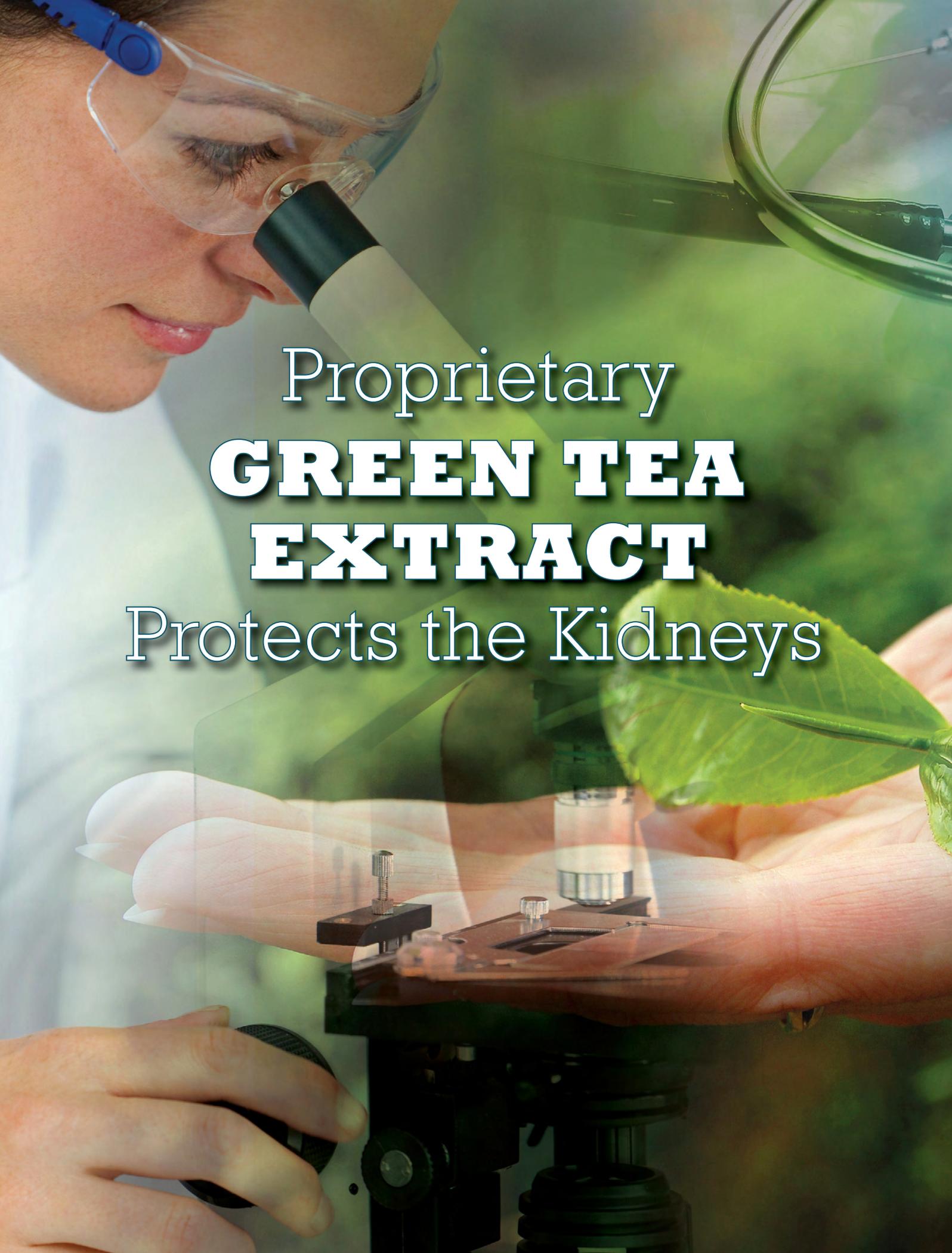
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Proprietary  
**GREEN TEA  
EXTRACT**

Protects the Kidneys



BY NATHANIEL S.W. LUCE

More than 26 million Americans suffer from chronic kidney disease—many without knowing it.<sup>1</sup>

Early detection is critical because, if caught in time with blood testing, many forms of kidney impairment are **reversible**.

If kidney damage is allowed to progress unchecked, a patient may have to rely on side effect-prone drugs,<sup>2,3</sup> or even worse, dialysis sessions three times a week. Kidney dialysis patients suffer many ill effects, especially to their vascular systems, and their life spans are significantly shortened.

In 2011, a team of researchers reported that the **green tea extract** in **Life Extension**®'s green tea formula prevented kidney damage in lab animals given **gentamicin**,<sup>4</sup> a commonly prescribed antibiotic notorious for its potential to induce *profound* damage to the kidneys, including end-stage renal failure.

In this article, the results of their compelling findings are detailed, along with the underlying mechanisms of action by which green tea extracts target multiple factors implicated in kidney damage. You will also discover compelling data on green tea's capacity to support and promote system-wide health across a range of age-related conditions. > >

## Proven Comprehensive Protection

Green tea has been used for millennia as a health-promoting drink, and its extracts are achieving recognition by serious scientists around the world.<sup>5,6</sup> Green tea is rich in polyphenol compounds called catechins, of which *epigallocatechin-3-gallate* (EGCG) is the best-studied and has shown the greatest range of beneficial effects.<sup>5-7</sup>

In a recent investigative study, Dr. Francesco Marotta and colleagues at the ReGenera Research Group for Aging-Intervention in Milan, Italy, chose to use **Life Extension's green tea extract** consisting of **98% polyphenols** (including **45% EGCG**) to ascertain if it could protect rats from kidney damage that results from the use of the antibiotic gentamicin.<sup>4</sup>

Gentamicin is an antibiotic that is widely used for treating urinary tract and kidney infections. Unfortunately, gentamicin has also become notorious for damaging vulnerable structures in the kidney, especially the tiny tubules where urine is produced. One of the ways in which gentamicin exerts its destructive effects is by triggering production of *reactive oxygen species* (ROS), while at the same time impairing natural antioxidant defenses. This one-two punch results in direct damage to kidney tubules, which is then complicated further by development of localized inflammatory changes.<sup>8</sup>

When Marotta's group treated lab rats with gentamicin alone, they saw precisely those destructive changes in the animals' kidneys, along with evidence in the



urine of kidney malfunction and oxidative stress.<sup>4</sup> But when they administered **Life Extension's green tea extract** at the same time as a dose of gentamicin, they discovered that they could reverse most of those harmful results. Marotta's findings, presented in early 2011, confirm earlier work revealing that green tea extracts exert powerful antioxidant and anti-inflammatory effects, both in the kidney and in other tissues.<sup>9,10</sup> And since most age-related diseases involve the combination of oxidative stress and inflammation, that's powerful news for people interested in using green tea as an important component of a science-based longevity program.

## Potent Antioxidant and Anti-inflammatory Protection

Marotta's work emphasizes the value and importance of using a highly-purified extract, rich in EGCG, to maximize protective effects. New studies continue to be published and confirm the important fact that EGCG acts at multiple targets to reduce the impact of oxidative stress and inflammation. It directly scavenges free radicals as a result of its chemical structure.<sup>11,12</sup> Green tea's EGCG also indirectly boosts levels of cellular antioxidant systems, such as those centered on glutathione, which normally buffer the amount of oxidative stress in cells and mitochondria.<sup>4,9</sup>

One major benefit of green tea extracts is that they suppress inflammation on multiple fronts. They reduce production of inflammatory cytokines, in part by suppressing the "master switch" of inflammation called *nuclear factor-kappaB* (NF- $\kappa$ B).<sup>10,13,14</sup> That effect can help prevent inflammatory consequences from initiating and promoting cancer.<sup>14</sup> EGCG also turns on inflammation-inhibiting biochemical pathways in immune system cells, further mediating anti-inflammatory effects.<sup>15</sup>

Green tea extracts exert a host of so-called "epigenetic" effects, which means that they promote the expression of beneficial genes and suppress many of those with deleterious effects.<sup>16,17</sup> Highly-purified, **EGCG-rich green tea extracts** produce rapid increases in plasma antioxidant activity in humans.<sup>18,19</sup> That may offer an advantage over simply drinking green tea, because the extract of EGCG is much more readily *absorbed* in dry powder form than it is from green tea beverages.<sup>18,20</sup>

By working on so many important targets of human aging, green tea and its numerous components provide a broad spectrum of protection against multiple degenerative diseases.

## Cancer

Today we understand cancer, regardless of its type, to be the result of a multi-stage process. Cancer initiation involves early DNA damage or modification by toxins, radiation, or infectious agents. The accumulation of mutagens in genes that regulate cell proliferation is the underlying initiating event. Cancer promotion occurs as a result of internal factors, often involving inflammatory factors. Once a tumor begins to grow, it invades tissue by secreting enzymes that “melt” the surrounding matrix and by generating new blood vessels in the process called angiogenesis. Finally, cancers multiply and spread when they shed small bundles of malignant cells that secrete their own adhesion molecules, helping them find fertile ground for establishing new tumors far from the original primary site.

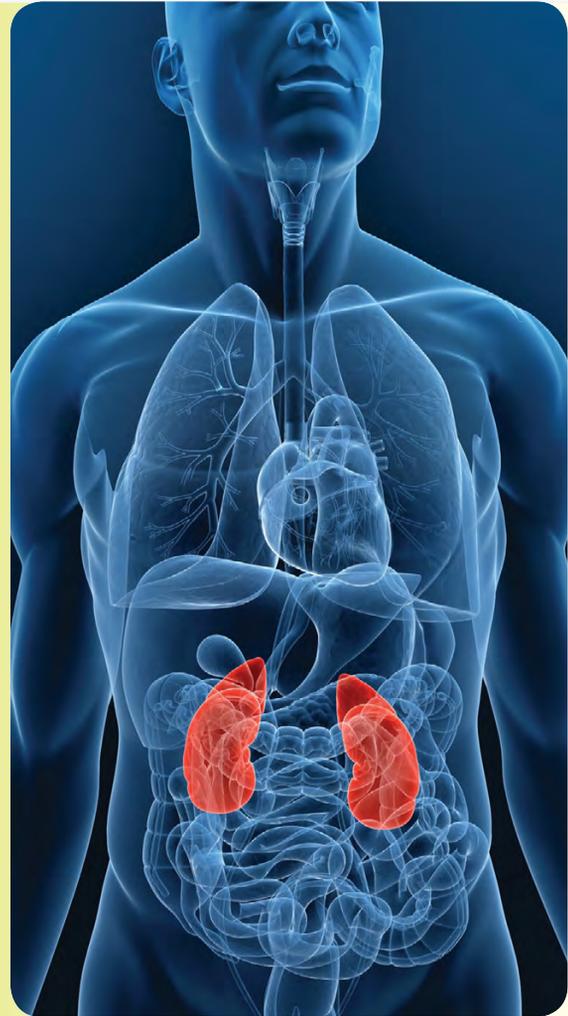
We now know that we can intervene at each of these steps, and green tea polyphenols, especially EGCG, are active against most of them.<sup>21</sup> Because cancers are hard to cure, much interest is focused on ways that green tea extracts can provide chemoprevention, stopping cancers long before they become clinically evident.<sup>22</sup>

Green tea extracts prevent DNA damage through their antioxidant properties, and they also trigger innate DNA repair mechanisms to quickly patch up damage before it is transmitted to new cells.<sup>23</sup> In human studies, consumption of green tea or its catechins rapidly reduce DNA damage throughout the body, resulting in reduced excretion of damaged DNA fragments in the urine.<sup>24,25</sup>

EGCG’s anti-inflammatory characteristics add another layer of protection, helping to reduce production of inflammatory cytokines in stressed tissue. This has been well-documented in people at known risk for colon cancer, which is among the most common adult malignancies. Colon cancers usually begin as benign polyps that undergo malignant change in response to local inflammatory factors in the intestine. Green tea extracts may slow or stop that transition by reducing production of inflammatory cytokines.<sup>26</sup>

When nascent cancers start to grow, EGCG-rich green tea extracts quash their spread by several mechanisms. They prevent expression of a vascular endothelial growth factor (VEGF), which is required for generation of new blood vessels to feed the growing tumor.<sup>27,28</sup> And they down-regulate production of tissue-melting proteins called *matrix metalloproteinases* (MMPs) that are essential for both local and metastatic spread to occur.<sup>29,30</sup>

Finally, cancer cells can be triggered to undergo programmed death, or apoptosis; green tea extracts are among the many nutraceuticals capable of



What You Need to Know

## Green Tea Extracts Protect the Kidneys

- A 2011 animal model revealed that the same green tea extract found in Life Extension’s green tea extract provided the kidneys significant protection against the commonly-prescribed antibiotic gentamicin.
- Green tea extracts are rich in catechins, flavonoid molecules with potent antioxidant and anti-inflammatory effects.
- Their multi-targeted mechanisms of action have also been shown to support system-wide health against cancer, cardiovascular disease, unhealthy body weight, and decreased insulin sensitivity.

inducing apoptosis via many different mechanisms in cancer cells.<sup>12,31</sup>

Human studies bear out these remarkable laboratory findings. Green tea extracts produce a rapid clinical response in at least **69%** of women with human papilloma virus (HPV) lesions on their cervixes, which in turn dramatically reduces their risk of cervical cancer.<sup>32</sup> Another virus, HTLV-1, is causatively associated with adult T-cell leukemia, and daily consumption of a green tea extract significantly reduced the number of viral particles in infected people.<sup>33</sup>

Dramatic findings are appearing with regard to prostate cancer and green tea extracts. Human prostate tissue rapidly accumulates tea polyphenols such as EGCG after oral supplementation.<sup>34</sup> Men with certain biopsy findings called HG-PIN (high-grade prostatic intraepithelial neoplasia) are at a **30% risk** of developing prostate cancer within a year, making them candidates for urgent intervention.<sup>35</sup> When Italian oncologists treated men who had HG-PIN with a green tea extract, they found only a **3% rate** of cancer development, compared with **30%** in the control group.<sup>35</sup> Symptom scores and overall quality of life improved as well. A subsequent study demonstrated long-term effects of the supplement, reducing new cancer diagnoses by nearly **80%**.<sup>36</sup>

Later studies have consistently shown reduction in risk of advanced prostate cancer in men, often reducing their odds for developing the cancer by nearly **50%**.<sup>37</sup> And green tea extracts can reduce levels of the

prostate-specific antigen (PSA), while inhibiting production of factors that enhance tumor spread.<sup>28</sup>

A virtually identical risk reduction (51%) has been shown in adults at risk for colon cancer.<sup>38</sup> In that study, the size of new tumors was also smaller in the green tea extract group than in the control group.

Breast cancer cells respond in a remarkable way to green tea extracts, switching from the difficult-to-treat estrogen receptor- $\alpha$  (ER $\alpha$ )-negative types to ER $\alpha$ -positive cells that are amenable to treatment with standard drugs.<sup>17</sup> Green tea extracts also favorably regulate breast cancer tumor suppressor genes.<sup>39</sup>

## Cardiovascular Health

There's ample epidemiological evidence showing that green tea consumption helps modulate the risk of cardiovascular diseases.<sup>40-42</sup> Until recently, though, the underlying mechanisms were unknown.<sup>43</sup> As our picture of the real causes of atherosclerosis has become clearer, however, we've also begun to see how the catechins in green tea can operate at multiple targets to reduce our risk.<sup>44</sup>

Oxidation and inflammation are the earliest steps in producing **endothelial dysfunction**, the dangerous changes in blood vessel-lining tissues that can lead to arterial wall stiffening and ultimately to plaque formation. EGCG and other green tea catechins act powerfully to improve endothelial function.<sup>45-47</sup> They enhance production of beneficial **nitric oxide** (NO), which in turn signals vessel walls to relax and dilate in response to blood flow.<sup>44,48,49</sup>

Green tea extracts reduce blood pressure in human subjects.<sup>50,51</sup> Improved endothelial function is one mechanism, but others are active as well. Green tea desensitizes calcium-signaling channels through effects on the cardiac enzyme troponin, improving heart function during the relaxation (diastolic) phase.<sup>52</sup> And green tea extracts also inhibit angiotensin-converting enzyme (ACE), which bumps up blood pressure.<sup>43</sup> Finally, green tea extracts reduce dangerous cardiac remodeling in overweight and obese animals, limiting vessel stiffness and reducing cardiovascular risk.<sup>53</sup>

Green tea extracts helps to favorably modify lipid profiles, reducing levels of low-density lipoprotein (LDL) that, when oxidized, triggers additional inflammation and contributes to growing arterial plaques.<sup>50,51,54</sup> And circulating markers of inflammation, particularly those triggered by obesity, are reduced by green tea extracts, while those such as adiponectin, which reduce fat-related inflammation, are bolstered.<sup>55</sup>





By virtue of their antioxidant characteristics, and their ability to modulate gene expression, green tea extracts can help fight the dangerous ischemia/reperfusion (IR) injury that follows a heart attack or stroke.<sup>56</sup> IR injury creates a “storm” of oxidants and cytokines that can do more damage than the original event. Numerous animal studies reveal the extent to which EGCG improves the ischemic environment, triggering biochemical pathways that limit the extent of IR injury.<sup>40,57,58</sup>

But perhaps the most exciting news of all about green tea and cardiovascular disease is its potential effect on body composition, particularly on fat stores, now known to be the source of dangerous cytokines that set us up for most chronic conditions. Animal and human studies demonstrate that EGCG-rich green tea extracts can reduce fatness, limit fat-related cytokine production, and help reduce body weight.<sup>50,59</sup>

### Combating “Diabetes”

Obesity, and even moderate overweight, are precursors of the metabolic syndrome and type 2 diabetes, leading some researchers to refer to the entire syndrome as “diabetes.”<sup>60</sup> EGCG and other catechins

Green tea extracts improve satiety, the feeling of fullness after eating. This effect may help reduce total caloric intake.

in green tea fight obesity by many different mechanisms.<sup>61</sup> EGCG is a thermogenic compound, that is, it triggers the body to burn fat and produce heat, helping to consume fat stores even at rest.<sup>62-64</sup> EGCG also improves glucose control and modifies body composition through alterations in gene expression in laboratory animals fed a high-fat diet.<sup>65</sup>

Green tea extracts improve satiety, the feeling of fullness after eating.<sup>66</sup> This effect may help reduce total caloric intake. The extracts also produce mild carbohydrate malabsorption, inhibiting sugars from rapidly entering the bloodstream after a meal.<sup>67</sup>

EGCG acts via several mechanisms to reduce the amount of fat the body puts away in adipocytes, for example by limiting fat cells’ response to insulin stimulation.<sup>68</sup> EGCG also directly inhibits an enzyme vital for formation of triglycerides, helping to reduce the body’s total burden of these dangerous fats.<sup>69</sup> Green tea extracts can limit fat synthesis in liver cells as well.<sup>70</sup>



## Summary

In early 2011, a team of researchers reported that the same *green tea extract* contained in **Life Extension's green tea formula** prevented kidney damage in an animal model using gentamicin, a commonly prescribed antibiotic notorious for damaging and even destroying the kidneys. Green tea extracts are rich in catechins, flavonoid molecules with potent antioxidant and anti-inflammatory effects. Their multi-targeted mechanisms of action have also been shown to support system-wide health against cancer, cardiovascular disease, unhealthy body weight, and decreased insulin sensitivity. ●

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

## References

These biochemical changes have real impact in human studies. Obese men and women lose more weight when restricting calorie intake and supplementing with green tea extracts than do control subjects who only restrict calorie intake.<sup>50,71-77</sup> Body composition is also favorably affected by green tea supplements, with reduction in visceral fat stores and significant reductions in waist circumference.<sup>50,74,78</sup>

Exercise remains a key component of any good weight loss program, and green tea supplements help exercising people lose even more weight safely.<sup>79</sup> Blood pressure, LDL, and markers of inflammation are also typically reduced in obese patients using green tea supplements.<sup>16,50,59,72,76</sup>

Green tea extracts fight the diabetes/metabolic syndrome components of diabetes as well. Green tea extracts help control blood sugar and reduce levels of hemoglobin A1c, the blood marker associated with chronically elevated glucose.<sup>74,80</sup> Green tea extract improves insulin sensitivity and glucose tolerance in animal and human studies, while burning fat through its thermogenic effects.<sup>81-85</sup> Finally, the reduction in LDL and increase in high-density lipoprotein (HDL) seen with a polyphenol-rich nutrient blend including green tea, pomegranate, and vitamin C has a powerful beneficial effect on diabetic patients, who are at risk for cardiovascular complications.<sup>86</sup>

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# All the **K** ... One a Day

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

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

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

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

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

**Super K formula provides in just one daily softgel:**

<b>Vitamin K1</b>	<b>1000 mcg</b>
<b>Vitamin K2 (MK-4)</b>	<b>1000 mcg</b>
<b>Vitamin K2 (MK-7)</b>	<b>100 mcg</b>



Item #01224

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

**Contains tree nuts (coconut).**

**Warning to Coumadin® (warfarin) Drug Users**

Patients prescribed vitamin K-antagonist anti-coagulant prescription drugs like warfarin should consult their physician before taking vitamin K supplements like Super K and Super Booster. There is evidence, however, that users of drugs like warfarin could benefit from a consistent low dose of supplemental vitamin K.

Ask your doctor if you can take a low 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.

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**To order Super K or Super Booster, call 1-800-544-4440 or visit [www.LifeExtension.com](http://www.LifeExtension.com)**

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.

YOU'RE ONLY AS OLD AS YOU THINK —

# Think Better WITH COGNITEX®



It starts with forgetting where you put your car keys. Then you can't remember a loved one's birthday. A few years later, it takes a moment to recall an old friend's name. Sadly, brain degeneration affects all aging adults. However, enhanced communication between neurons may hold the key to maintaining youthful cognition and memory.

**Cognitex® with Pregnenolone & NeuroProtection Complex** provides 9 cutting-edge **brain boosting** supplements in one exciting formula!

We all strive for a youthful brain, but the key to brain power may come from **uridine-5'-monophosphate (UMP)**, a compound that is naturally found in the milk of nursing mothers and is essential to humans when their brains are the youngest — as infants. More importantly, UMP supports superior cognitive function in aging adults.

In order to bolster this improved brain function, Cognitex® contains **Sharp-PS® GOLD** to promote normal neuronal cell membrane activities and structure. With this structure in place, **vinpocetine** enhances circulation and oxygenation of brain cells while **phospholipid-grape seed extract** improves blood vessel tone and elasticity, thus boosting oxygen flow to the brain.

**Wild blueberry extract** has been added to protect against free-radical damage, and **pregnenolone** may have beneficial properties as well.

In order to protect against inflammation to a healthy brain, a **proprietary NeuroProtection Complex Blend** contains standardized extracts of hops, ginger, and rosemary — all known to have anti-inflammatory capabilities.

With a healthy brain in place, the proper levels of **acetylcholine** are needed to enable brain neurons to communicate. To maintain these levels, Cognitex® includes **alpha-glyceryl phosphoryl choline (A-GPC)** to boost acetylcholine and **Sensoril® ashwagandha extract** to inhibit an enzyme that degrades acetylcholine in the aging 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.



**Just three softgels of Cognitex® provide the following nutrients:**

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

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

Perluxan® is used with permission. Sensoril® is protected under US Patents Nos. 6,153,198 and 6,713,092, and is a registered trademark of Natreon, Inc. Sharp-PS® GOLD is a registered trademark of Enzymotec Ltd.

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

**To order Cognitex®, call 1-800-544-4440 or visit [www.LifeExtension.com](http://www.LifeExtension.com)**



# 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 three cups of green tea.

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

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

Contains rice.



Item #00953

Item #00954

To order Mega Green Tea Extract, call 1-800-544-4440 or visit [www.LifeExtension.com](http://www.LifeExtension.com)

# REDUCE STUBBORNLY HIGH **TRIGLYCERIDES**





BY JEN STORCH

Hundreds of published studies document the ability of vitamin E to combat cancer, heart disease, obesity, kidney failure, neurodegenerative disorders, and inflammatory responses.<sup>1-6</sup>

At the same time, we know that conventional vitamin E (alpha-tocopherol) does not by itself confer the omnibus protection that aging people need to remain disease-free.

Scientists continue to uncover unique biological properties of a class of vitamin E compounds called **tocotrienols**. In late **2010**, researchers in Singapore released findings from a human study showing that a **tocotrienol extract** slashed levels of artery-clogging **triglycerides** by **28%**.<sup>7</sup>

In this article you will learn of the implications this discovery has for individuals with stubbornly **high blood lipid levels** characteristic of the constellation of pathologies known as **metabolic syndrome**. > >

## Why High Triglycerides Are Dangerous

Triglycerides accumulate in various organs, where they exert numerous harmful effects, most prominently in cardiac tissue.<sup>8</sup> They influence expression of genes related to susceptibility to coronary artery disease.<sup>9</sup> Accumulating in the heart, they reduce left ventricular function in a fashion specific to people with metabolic disorders.<sup>10</sup>

Triglycerides also trigger increased platelet activation, substantially boosting risk of dangerous clot formation. Elevated triglycerides increase incidence of stroke—a risk that can be mitigated by lowering levels of these dangerous fat compounds.<sup>11,12</sup>

Elevated triglycerides contribute to the **three-fold elevation** of cardiovascular disease risk seen in those with *metabolic syndrome*.<sup>13,14</sup> People with type 2 diabetes and high liver triglyceride content have poorer blood flow and impaired energy metabolism in their heart tissue.<sup>15</sup>

## The Singapore Study

A report published in 2002 revealed a startling **40%** of adults 60 years and older suffered from *metabolic syndrome*,<sup>16</sup> placing them at considerably higher risk for heart attack, stroke, and other age-related diseases.

A common characteristic of metabolic syndrome is high blood levels of **LDL** and

**triglycerides**, along with impaired glucose control, abdominal obesity, and hypertension.

Previous reports indicated that *tocotrienols* could improve the body's ability to safely lower LDL and triglycerides. A team of Singapore researchers performed a multi-phase study to determine precisely how tocotrienols can exert such favorable effects on blood lipid profiles.<sup>7</sup>

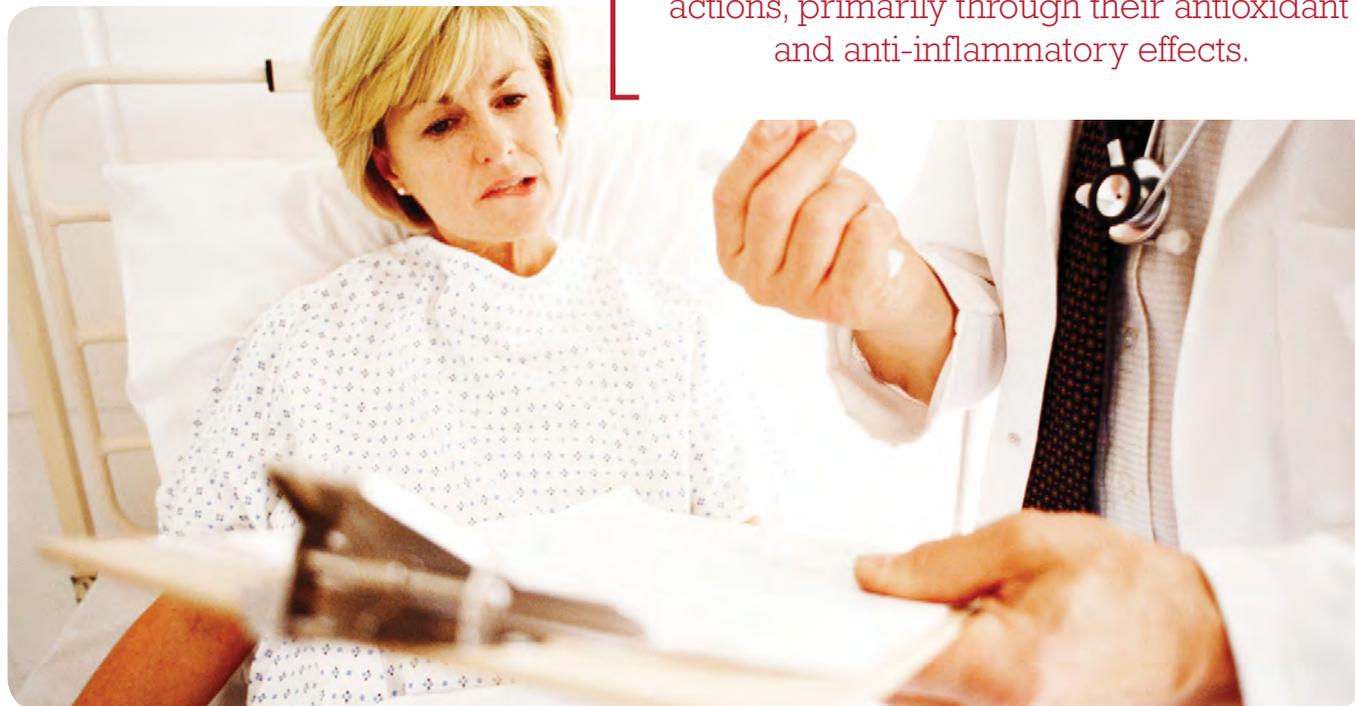
The Singapore team began with cultured human liver cells, moved on to mice, and finally to human subjects.<sup>7</sup>

The cell culture studies revealed that tocotrienols (gamma & delta) suppressed *gene expression* involved in lipid (fat) formation, driving down production of triglycerides and cholesterol. Tocotrienols further enhanced clearance of LDL by up-regulating genes governing LDL's ability to attach to cells.

Animal models revealed that tocotrienol treatment of mice with elevated cholesterol and triglycerides reduced total cholesterol by **25%** and triglyceride levels by **19%**.<sup>7</sup> (Levels of beneficial HDL were not suppressed.)

The human portion of the study showed that serum **triglyceride** levels plummeted by **28%** in subjects taking **120 mg** per day of **gamma-delta-tocotrienol**.<sup>7</sup> This was accompanied by a reduction of about **13%** in very-low density lipoprotein (VLDL), another lipid

Tocotrienols, particularly gamma-tocotrienol, have been linked to anti-cancer actions, primarily through their antioxidant and anti-inflammatory effects.



involved in arterial occlusion. Tocotrienols were also shown to suppress levels of *chylomicrons*, lipoprotein complexes that transport fats from your intestines to the liver and other parts of your body.<sup>7</sup>

### Confirmatory Studies

An abundance of supportive data reinforces the Singapore team's findings.

Diabetic rats treated with palm oil-derived tocotrienols had significantly lower levels of total cholesterol, LDL, and triglycerides, and higher HDL levels compared with control animals. Further, the supplemented animals had lower blood sugar and hemoglobin A1c (HbA1c) levels, and microscopic examination of their major blood vessels revealed substantially less disruption than seen in untreated controls.<sup>17</sup>

Tocotrienols suppress differentiation of pre-adipocytes into mature adipocytes (fat cells), helping to reduce the overall burden of inflammation-generating fat tissue.<sup>18</sup> They also reduce synthesis of triglycerides and VLDL particles in the liver, contributing to a reduction in fatty liver in animal studies.<sup>7,19</sup>

A tocotrienol-rich palm oil preparation has been shown to reduce total cholesterol and LDL levels by as much as **37%** in aging individuals with abnormal lipid profiles.<sup>20,21</sup> Both tocotrienol-rich palm oil, rice oils, and purified tocotrienols at doses of approximately **100-200 mg per day** have induced these beneficial effects.<sup>22-24</sup>

Diabetics are at especially high risk for these dyslipidemias, and tocotrienol supplements can be particularly helpful in that context. Perhaps because of their especially disrupted lipid profiles, diabetics experience even more powerful lipid-lowering effects from tocotrienol supplementation, including as much as a **42%** reduction in LDL.<sup>25</sup>

As potent antioxidants, tocotrienols have been shown to induce *regression* of carotid artery narrowing in patients at risk for stroke from atherosclerosis and inhibit LDL oxidation, a precursor to the formation of atherosclerotic lesions.<sup>26,27</sup>

### Quenching the Pro-Inflammatory Fire

Inflammation lies at the core of most chronic age-related diseases. Tocotrienols exert powerful anti-inflammatory effects throughout the body.

They have been shown to attenuate oxidative stress in diabetic tissues, halting a pro-inflammatory cascade that otherwise leads to diabetic neuropathy (nerve pain and damage).<sup>28</sup> Tocotrienols favorably



What You Need to Know

## Tocotrienols

- A 2010 study revealed that tocotrienols, a set of four compounds contained within vitamin E, slash triglyceride levels in humans.
- Supportive research underscores their ability to powerfully suppress many of the cofactors implicated in metabolic syndrome.
- At doses of **100-200 mg per day**, they have been shown to reduce total cholesterol and LDL levels by as much as **37%** in aging individuals with abnormal lipid profiles.
- Tocotrienols' potent and multitargeted anti-inflammatory effects also effectively combat cancer and neurodegenerative disease.

modulate the gene-regulating “master switch” nuclear factor-kappaB (NF-κB) to down-regulate expression of cytokines that wreak inflammatory havoc on a host of target tissues.<sup>29-31</sup> This mechanism of action protects vulnerable organs such as the kidney from many of the consequences of metabolic syndrome.

Still further along the same pro-inflammatory cascade, they prevent intestinal scar-forming cells from proliferating in response to inflammatory bowel disease, helping to reduce the risks of dangerous narrowing of the intestine.<sup>32</sup> The anti-inflammatory power of tocotrienols even benefits the skin, which undergoes severe oxidative stress following exposure to UV rays in sunlight.<sup>33,34</sup>

By suppressing oxidative stress and related NF-κB-related inflammation, tocotrienols prevent the cognitive decline associated with diabetes in laboratory animals.<sup>35,36</sup> This effect is powerful enough even to prevent chronic alcohol-induced cognitive losses in rat studies.<sup>37</sup>

### Anti-Cancer Mechanisms

Tocotrienols, particularly gamma-tocotrienol, have been linked to anti-cancer actions, primarily through their antioxidant and anti-inflammatory effects.<sup>38,39</sup> In 2010 alone, scientists from prestigious



## What Are Triglycerides?

**Triglycerides** are the form in which most fat exists within the body. Triglycerides in the blood are derived from fats eaten in foods or are made in the body from other sources like carbohydrates.

**Triglycerides** can accumulate on the walls of arteries and contribute to the buildup of atherosclerotic plaque. Elevated blood triglycerides are involved in the deadly **metabolic syndrome** that predisposes individuals to type 2 diabetes and its related vascular complications.<sup>50</sup>

**Triglycerides** are the major constituent of belly fat. Excess blood **triglycerides** induce an accumulation of undesirable body fat (especially in the visceral abdominal region). Abdominal obesity is a major risk factor for heart attack, stroke, dementia, and a host of chronic inflammatory diseases.<sup>51-53</sup>

The **American Heart Association** website says that triglyceride levels up to **149 mg/dL** are safe, but **Life Extension** has long maintained that optimal fasting triglycerides are under 100 mg/dL of blood. More

recent evidence suggests that fasting triglycerides should be even *lower*.<sup>54</sup>

Two years ago, Life Extension reduced the recommendation for optimal fasting triglyceride levels to under 80 mg/dL of blood. We know that achieving this lower level will be challenging to certain individuals, especially those suffering from obesity, type 2 diabetes, and/or metabolic syndrome. Fortunately, nutrients (like fish oil) and drugs (like metformin) can dramatically slash triglyceride blood levels.

With new evidence showing that certain **tocotrienol** fractions can lower triglycerides by **28%**, those with stubbornly high triglycerides have a new weapon to reduce this deadly blood fat.

The **Male and Female Blood Tests** include a measurement of **triglycerides** in your blood. Until **June 6, 2011**, Life Extension members can obtain these comprehensive blood test panels for only **\$199** by calling **1-800-208-3444** (24 hours).

institutions such as the *MD Anderson Cancer Center* and the *National Institute on Aging* have contributed to a number of new discoveries about tocotrienols and cancer.

These discoveries reveal the unique actions of tocotrienols on regulatory proteins such as NF- $\kappa$ B, on DNA-repair proteins, and on intracellular signaling systems, all of which contribute to cancer development.<sup>40-43</sup> Gamma-tocotrienol, for example, controls expression of cell regulatory and detoxifying proteins in breast cancer cells, suppressing proliferation and preventing progression of nascent cancers.<sup>44</sup>

Even if a cancer does get started at a microscopic level, tocotrienols can snuff it out by triggering its cells to commit suicide through activation of the aptly named *cellular death receptors*.<sup>45</sup> And in the event of actual tumor development, tocotrienols sensitize cancerous cells to chemotherapy drugs, potentially reducing their required doses and side effects.<sup>38,46</sup> Intriguingly, gamma-tocotrienol has been found to target a unique population of cells in prostate tumors.<sup>47</sup> These so-called cancer stem cells are unaffected by conventional cancer therapies, thereby accounting for many cases of treatment-resistant cancers and relapses.

Tocotrienols also show promise in protecting against the potentially cancer-inducing effects of radiation. While radiation is a cornerstone of modern cancer treatment, it can also increase an individual's future risk of leukemia and other cancers.<sup>48</sup> A pre-clinical study showed that gamma-tocotrienol protected mice against the depletion of blood-forming cells that typically occurs in response to full-body

radiation exposure.<sup>49</sup> These preliminary findings offer hope that tocotrienols could offer protection against the adverse effects of medical, environmental, and occupational radiation exposures.

## Summary

A **2010** study revealed that **tocotrienols** slash levels of **triglycerides** by **28%** in humans, while supportive research suggests they also mitigate other cofactors implicated in **metabolic syndrome**. Their multi-targeted anti-inflammatory effects are being recognized as factors in their ability to combat common age-related disorders. ●

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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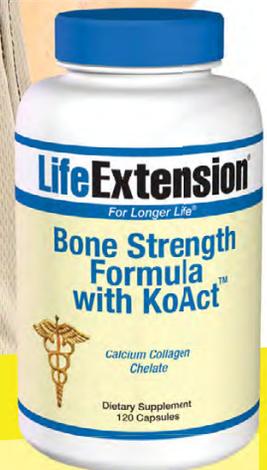
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<b>Vitamin D3</b> (as cholecalciferol)	<b>1,000 IU</b>
<b>Magnesium</b> (as magnesium citrate)	<b>100 mg</b>
<b>Silica [from standardized Bamboo (<i>Bambusa vulgaris</i>) extract (stem)]</b>	<b>5 mg</b>
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A wealth of published studies have firmly established vitamin E's essential role in promoting cardiac health, healthy body weight, healthy nerve cell function, kidney health, and inflammatory issues, among other age-related conditions.<sup>1-6</sup>

New research continues to emerge on the *arterial* health-promoting properties of a set of compounds contained within vitamin E called **tocotrienols**.

In **2010**,<sup>7</sup> a team of Asian scientists demonstrated that this class of nutrients, which are difficult to obtain in sufficient quantities through dietary sources alone, may provide superior support in maintaining **triglyceride** levels already within healthy range in aging individuals. Just **120 mg per day** of gamma-delta tocotrienols (provided in 2-3 softgels) induced a **28%** decline in triglyceride levels in the blood after just one month.

**Life Extension**'s tocotrienol formula also contains sesame lignans, which have been shown to help slow down or prevent altogether enzymatic activity that breaks down tocotrienols,<sup>8</sup> enabling them to reach *optimal* levels in your body.

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<b>Vitamin E</b> (as D-alpha tocopherol)	28.7 IU
<b>Tocomin</b> <sup>®</sup> Full-Spectrum	192 mg
Natural Tocotrienol/Tocopherol Complex	

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<b>Alpha tocotrienol</b>	21.12-26.88 mg
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<b>Gamma tocotrienol</b>	38.4-46.08 mg
<b>Alpha tocopherol</b>	19.2-26.88 mg
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**Tocomin**<sup>®</sup> is a registered trademark of Carotech, Inc.; protected by US Patent #5,157,132.

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A **Natural** Weapon in the Battle against Brain Aging

A compound found in the leaf of the **periwinkle plant** called **vinpocetine** has been shown to provide significant support for brain health and cognitive function as you age.

Among its many benefits, **vinpocetine** has been shown to:

- Provide support for age-related cognitive issues.<sup>1</sup>
- Promote memory.<sup>2</sup>
- Support healthy blood flow inside the brain.<sup>3</sup>
- Promote overall nervous system health.<sup>4</sup>
- Support clotting factor levels already within healthy range within the brain.<sup>5</sup>

## CLINICALLY VALIDATED FOR BRAIN HEALTH

In a double-blind clinical trial, researchers split 84 people with age-related cognitive issues into two groups. One took **10 mg** of vinpocetine every day for a month, then **5 mg** for another two months.<sup>6</sup> The other group took a sugar pill. The vinpocetine group performed significantly better on cognitive tests *and* exhibited improved mood.

A separate three-month trial confirmed that vinpocetine supports healthy blood flow in the brain even while you're at rest. Vinpocetine ingestion was found to significantly improve **intra-cerebral blood flow** after just **12 weeks**.<sup>7</sup>

## TWICE THE POTENCY AT THE SAME VALUE PRICE

Vinpocetine's power to support cognitive function has gained worldwide recognition. So much so that it's available as a *prescription drug* in nearly **50 countries**, including Hungary, Germany, Poland, Russia, and Japan.<sup>6,8</sup>

Unlike **pharmaceutical companies** in the US that constantly increase the price of what are often mediocre drugs, **Life Extension®** has **doubled** the potency in its vinpocetine tablets... but kept the price the same!

Maturing individuals concerned about brain aging may choose to take up to three **10 mg** tablets per day of **Vinpocetine** initially for optimal brain health support.

Many members already take the **Cognitex®** formula, which contains **20 mg** of vinpocetine in each daily serving. Most people taking Cognitex® do not need additional vinpocetine.

A bottle containing **100** tablets of **Life Extension® Vinpocetine** retails for \$18. If a member buys 4 bottles, the price is reduced to just **\$10.50** per bottle.

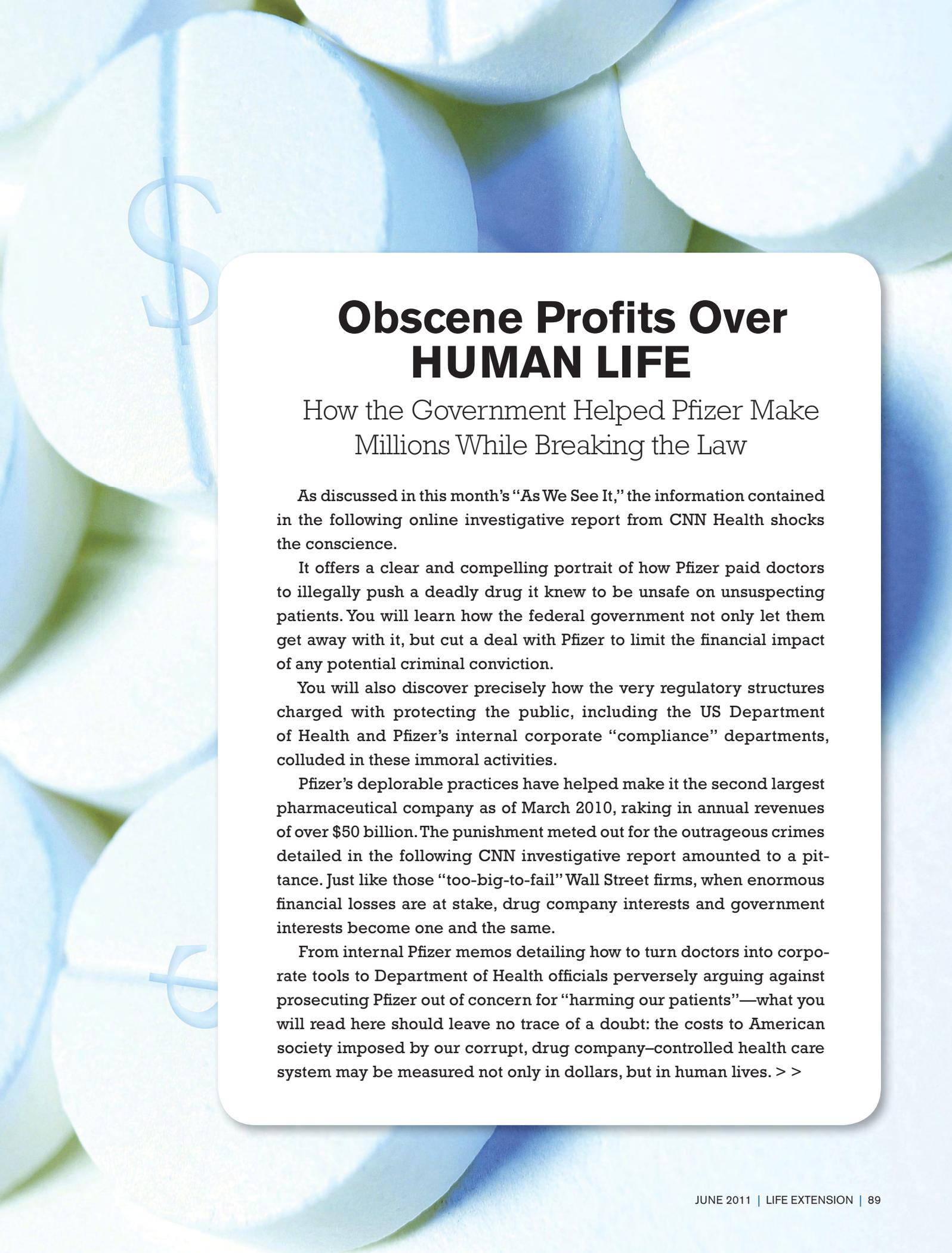


Item # 01327

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To order Life Extension® Vinpocetine call  
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# Obscene Profits Over HUMAN LIFE

## How the Government Helped Pfizer Make Millions While Breaking the Law

As discussed in this month's "As We See It," the information contained in the following online investigative report from CNN Health shocks the conscience.

It offers a clear and compelling portrait of how Pfizer paid doctors to illegally push a deadly drug it knew to be unsafe on unsuspecting patients. You will learn how the federal government not only let them get away with it, but cut a deal with Pfizer to limit the financial impact of any potential criminal conviction.

You will also discover precisely how the very regulatory structures charged with protecting the public, including the US Department of Health and Pfizer's internal corporate "compliance" departments, colluded in these immoral activities.

Pfizer's deplorable practices have helped make it the second largest pharmaceutical company as of March 2010, raking in annual revenues of over \$50 billion. The punishment meted out for the outrageous crimes detailed in the following CNN investigative report amounted to a pittance. Just like those "too-big-to-fail" Wall Street firms, when enormous financial losses are at stake, drug company interests and government interests become one and the same.

From internal Pfizer memos detailing how to turn doctors into corporate tools to Department of Health officials perversely arguing against prosecuting Pfizer out of concern for "harming our patients"—what you will read here should leave no trace of a doubt: the costs to American society imposed by our corrupt, drug company-controlled health care system may be measured not only in dollars, but in human lives. > >

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## FEDS FOUND PFIZER TOO BIG TO NAIL

BY DREW GRIFFIN AND ANDY SEGAL,  
CNN SPECIAL INVESTIGATIONS UNIT  
APRIL 2, 2010 4:44 P.M. EDT

(CNN)—Imagine being charged with a crime, but an imaginary friend takes the rap for you.

That is essentially what happened when Pfizer, the world's largest pharmaceutical company, was caught illegally marketing Bextra, a painkiller that was taken off the market in 2005 because of safety concerns.

When the criminal case was announced last fall, federal officials touted their prosecution as a model for tough, effective enforcement. "It sends a clear message" to the pharmaceutical industry, said Kevin Perkins, assistant director of the FBI's Criminal Investigative Division.

But beyond the fanfare, a CNN Special Investigation found another story, one that officials downplayed when they declared victory. It's a story about the power major pharmaceutical companies have even when they break the laws intended to protect patients.

### BIG PLANS FOR BEXTRA

The story begins in 2001, when Bextra was about to hit the market. The drug was part of a revolutionary class of painkillers known as Cox-2 inhibitors that were supposed to be safer than generic drugs, but at 20 times the price of ibuprofen.

Pfizer and its marketing partner, Pharmacia, planned to sell Bextra as a treatment for acute pain, the kind you have after surgery.

But in November 2001, the U.S. Food and Drug Administration said Bextra was not safe for patients at high risk of heart attacks and strokes.

The FDA approved Bextra only for arthritis and menstrual cramps. It rejected the drug in higher doses for acute, surgical pain.

Promoting drugs for unapproved uses can put patients at risk by circumventing the FDA's judgment over which products are safe and effective. For that reason, "off-label" promotion is against the law.

*If we prosecute Pfizer ... a lot of the people who work for the company who haven't engaged in criminal activity would get hurt.*

—Mike Loucks, federal prosecutor

But with billions of dollars of profits at stake, marketing and sales managers across the country nonetheless targeted anesthesiologists, foot surgeons, orthopedic surgeons and oral surgeons. "Anyone that use[d] a scalpel for a living," one district manager advised in a document prosecutors would later cite.

A manager in Florida e-mailed his sales reps a scripted sales pitch that claimed—falsely—that the FDA had given Bextra "a clean bill of health" all the way up to a 40 mg dose, which is twice what the FDA actually said was safe.

### DOCTORS AS PITCHMEN

Internal company documents show that Pfizer and Pharmacia (which Pfizer later bought) used a multimillion-dollar medical education budget to pay hundreds of doctors as speakers and consultants to tout Bextra.

Pfizer said in court that "the company's intent was pure": to

foster a legal exchange of scientific information among doctors.

But an internal marketing plan called for training physicians "to serve as public relations spokespeople."

According to Lewis Morris, chief counsel to the inspector general at the U.S. Department of Health and Human Services, "They pushed the envelope so far past any reasonable interpretation of the law that it's simply outrageous."

Pfizer's chief compliance officer, Doug Lanker, said that "in a large sales force, successful sales techniques spread quickly," but that top Pfizer executives were not aware of the "significant mispromotion issue with Bextra" until federal prosecutors began to show them the evidence.

By April 2005, when Bextra was taken off the market, more than half of its \$1.7 billion in profits had come from prescriptions written for uses the FDA had rejected.

### TOO BIG TO NAIL

But when it came to prosecuting Pfizer for its fraudulent marketing, the pharmaceutical giant had a trump card: Just as the giant banks on Wall Street were deemed too big to fail, Pfizer was considered too big to nail.

Why? Because any company convicted of a major health care fraud is automatically excluded from Medicare and Medicaid. Convicting Pfizer on Bextra would prevent the company from billing federal health programs for any of its products. It would be a corporate death sentence.

Prosecutors said that excluding Pfizer would most likely lead to Pfizer's collapse, with collateral consequences: disrupting the flow

of Pfizer products to Medicare and Medicaid recipients, causing the loss of jobs including those of Pfizer employees who were not involved in the fraud, and causing significant losses for Pfizer shareholders.

“We have to ask whether by excluding the company [from Medicare and Medicaid], are we harming our patients,” said Lewis Morris of the Department of Health and Human Services.

So Pfizer and the feds cut a deal. Instead of charging Pfizer with a crime, prosecutors would charge a Pfizer subsidiary, Pharmacia & Upjohn Co. Inc.

The CNN Special Investigation found that the subsidiary is nothing more than a shell company whose only function is to plead guilty.

According to court documents, Pfizer Inc. owns (a) Pharmacia Corp., which owns (b) Pharmacia & Upjohn LLC, which owns (c) Pharmacia &

Upjohn Co. LLC, which in turn owns (d) Pharmacia & Upjohn Co. Inc. It is the great-great-grandson of the parent company.

Public records show that the subsidiary was incorporated in Delaware on March 27, 2007, the same day Pfizer lawyers and federal prosecutors agreed that the company would plead guilty in a kickback case against a company Pfizer had acquired a few years earlier.

As a result, Pharmacia & Upjohn Co. Inc., the subsidiary, was excluded from Medicare without ever having sold so much as a single pill. And Pfizer was free to sell its products to federally funded health programs.

#### AN IMAGINARY FRIEND

*I can tell you, unequivocally, that Pfizer perceived the Bextra matter as an incredibly serious one.*

—Doug Lankler, Pfizer’s chief compliance officer,

Two years later, with Bextra, the shell company once again pleaded guilty. It was, in effect, Pfizer’s imaginary friend stepping up to take the rap.

“It is true that if a company is created to take a criminal plea, but it’s just a shell, the impact of an exclusion is minimal or nonexistent,” Morris said.

Prosecutors say there was no viable alternative.

“If we prosecute Pfizer, they get excluded,” said Mike Loucks, the federal prosecutor who oversaw the investigation. “A lot of the people who work for the company who haven’t engaged in criminal activity would get hurt.”

Did the punishment fit the crime? Pfizer says yes.

It paid nearly \$1.2 billion in a criminal fine for Bextra, the largest fine the federal government has ever collected.

It paid a billion dollars more to settle a batch of civil suits—although it denied wrongdoing—on allegations that it illegally promoted 12 other drugs.

In all, Pfizer lost the equivalent of three months’ profit.

It maintained its ability to do business with the federal government.

Pfizer says it takes responsibility for the illegal promotion of Bextra. “I can tell you, unequivocally, that Pfizer perceived the Bextra matter as an incredibly serious one,” said Doug Lankler, Pfizer’s chief compliance officer.

To prevent it from happening again, Pfizer has set up what it calls “leading-edge” systems to spot signs of illegal promotion by closely monitoring sales reps and tracking prescription sales.

It’s not entirely voluntary. Pfizer had to sign a corporate integrity agreement with the Department of Health and Human Services. For the next five years, it requires Pfizer to disclose future payments to doctors and top executives to sign off personally that the company is obeying the law.

Pfizer says the company has learned its lesson.

But after years of overseeing similar cases against other major drug companies, even Loucks isn’t sure \$2 billion in penalties is a deterrent when the profits from illegal promotion can be so large.

“I worry that the money is so great,” he said, that dealing with the Department of Justice may be “just of a cost of doing business.”

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3. Have your blood drawn.
4. Your blood test results will be mailed, emailed, or faxed directly to you by Life Extension.
5. Take the opportunity to discuss the results with one of our knowledgeable health advisors by calling 1-800-226-2370; or review the results with your personal physician.

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For those residing in the Ft. Lauderdale, Florida area, blood draws are also performed at the Life Extension Nutrition Center from 9:00 am to 2:00 pm Monday through Saturday. Simply purchase the blood test and have it drawn with no wait! Our address is 1100 West Commercial Blvd, Ft. Lauderdale, FL, 33309. We're located at Commercial Blvd and Powerline Road, just west of I-95. For more information or directions call 954-766-8144.

ANNUAL

# Blood Test

April 1-June 6, 2011 **SUPER SALE**

LIFE EXTENSION'S SUGGESTIONS FOR ANNUAL SCREENING (Member Prices\*)

## MEN'S ANNUAL BLOOD TESTING

- |  |  |
|--|--|
| <input type="radio"/> <b>MALE LIFE EXTENSION PANEL (LC322582)</b> <b>\$199</b>   | <b>NEW &amp; IMPROVED<br/>NOW INCLUDES SHBG!</b> |
| CBC/Chemistry Profile (description on next page)<br>DHEA-S<br>PSA (prostate-specific antigen)<br>Homocysteine<br>C-Reactive Protein (high-sensitivity)<br>Free Testosterone<br>Total Testosterone<br>Estradiol<br>TSH for thyroid function<br>Sex Hormone-Binding Globulin (SHBG)  |  |
| <input type="radio"/> <b>MALE HORMONE ADD-ON PANEL<sup>†</sup> (LCADDM) Pregnenolone and Dihydrotestosterone (DHT)</b> <b>\$115</b>  |  |
| 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 information about a testosterone metabolite that can affect the prostate; and the hormone pregnenolone that acts as a precursor to all other hormones. |  |
| <input type="radio"/> <b>THYROID ADD-ON PANEL (LCTHYROID) Free T3 &amp; Free T4.</b> <b>\$36</b>   |  |
| <input type="radio"/> <b>VITAMIN D (25-OH) (LC081950)</b> <b>\$35.25</b>   |  |
| This test is used to assess vitamin D status in your body.   |  |
| <input type="radio"/> <b>OMEGA SCORE™*** (LCOMEGA)</b> <b>\$98</b>   |  |
| 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.   |  |
| <input type="radio"/> <b>COENZYME Q10<sup>†</sup> (LC120251)</b> <b>\$108.75</b>   |  |
| Research is revealing that maintaining higher blood levels of CoQ10 may offer greater health benefits. This test measures blood levels of CoQ10.   |  |
| <input type="radio"/> <b>VAP™ TEST (LC804500) (UPDATED)</b> <b>\$67.50</b>   |  |
| The VAP cholesterol test provides a more comprehensive coronary heart disease (CHD) risk assessment than the conventional lipid profile. This test includes measurements of LDL particle size and lipoprotein subclasses.  |  |
| <input type="radio"/> <b>FOOD SAFE ALLERGY TEST** (LCM73001)</b> <b>\$130.50</b>   |  |
| This test measures delayed (IgG) food allergies for 45 common foods.   |  |

## WOMEN'S ANNUAL BLOOD TESTING

- |   |  |
|---|--|
| <input type="radio"/> <b>FEMALE LIFE EXTENSION PANEL (LC322535)</b> <b>\$199</b>  | <b>NEW &amp; IMPROVED<br/>NOW INCLUDES SHBG!</b> |
| CBC/Chemistry Profile (description on next page)<br>DHEA-S<br>Estradiol<br>Homocysteine<br>C-Reactive Protein (high-sensitivity)<br>Progesterone<br>Free Testosterone<br>Total Testosterone<br>TSH for thyroid function<br>Sex Hormone-Binding Globulin (SHBG)  |  |
| <input type="radio"/> <b>FEMALE HORMONE ADD-ON PANEL<sup>†</sup> (LCADDF) Pregnenolone and Total Estrogen</b> <b>\$92.50</b>  |  |
| 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 information about total estrogen status; and the hormone pregnenolone that acts as a precursor to all other hormones. |  |
| <input type="radio"/> <b>THYROID ADD-ON PANEL (LCTHYROID) Free T3 &amp; Free T4.</b> <b>\$36</b>  |  |
| <input type="radio"/> <b>VITAMIN D (25-OH) (LC081950)</b> <b>\$35.25</b>  |  |
| This test is used to assess vitamin D status in your body.  |  |
| <input type="radio"/> <b>OMEGA SCORE™*** (LCOMEGA)</b> <b>\$98</b>  |  |
| 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.  |  |
| <input type="radio"/> <b>COENZYME Q10<sup>†</sup> (LC120251)</b> <b>\$108.75</b>  |  |
| Research is revealing that maintaining higher blood levels of CoQ10 may offer greater health benefits. This test measures blood levels of CoQ10.  |  |
| <input type="radio"/> <b>VAP™ TEST (LC804500) (UPDATED)</b> <b>\$67.50</b>  |  |
| The VAP cholesterol test provides a more comprehensive coronary heart disease (CHD) risk assessment than the conventional lipid profile. This test includes measurements of LDL particle size and lipoprotein subclasses.   |  |
| <input type="radio"/> <b>FOOD SAFE ALLERGY TEST** (LCM73001)</b> <b>\$130.50</b>  |  |
| This test measures delayed (IgG) food allergies for 95 common foods.  |  |

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- Male Hormone Retest Profile (LCRTMCOMBO) • Female Hormone Retest Profile (LCRTFCOMBO)
- Male Weight Loss Panel (LCWLMCOMBO) • Female Weight Loss Panel (LCWLFCOMBO)

## SUGGESTED ADDITIONS TO ANNUAL BLOOD TESTING

- |   |   |
|---|---|
| <input type="radio"/> <b>FIBRINOGEN<sup>†</sup> (LC001610)</b> <b>\$23.25</b>   | <input type="radio"/> <b>CELIAC DISEASE ANTIBODY SCREEN (LC334971)</b> <b>\$74.25</b>           |
| High levels of this blood-clotting factor increase the risk of heart attack and stroke.   | This test measures deamidated gliadin IgA; tissue transglutaminase IgA; serum IgA quantitation. |
| <input type="radio"/> <b>CORTISOL (LC004051)</b> <b>\$29.25</b>   | <input type="radio"/> <b>FERRITIN (LC004598)</b> <b>\$21</b>                                    |
| This test is used to help assess adrenal function.  | Used to evaluate iron stores in the body and to determine iron deficiency anemia.               |
| <input type="radio"/> <b>LP-PLA2 (PLAC TEST) (LC123240)</b> <b>\$93.75</b>  | <input type="radio"/> <b>HEMOGLOBIN A1C (LC001453)</b> <b>\$23.25</b>                           |
| 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. | Used to assess long-term glucose control.   |
|   | <input type="radio"/> <b>VITAMIN B12/FOLATE (LC000810)</b> <b>\$24.75</b>                       |
|   | This test measures the amount of vitamin B12 and folic acid in the blood.                       |

\* For non-member pricing call **1-800-208-3444**.

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



## OTHER POPULAR PANELS

- CBC/CHEMISTRY PROFILE (LC381822)** \$26  
**Note: This CBC/Chemistry profile is included in the Male and Female Life Extension panels. Retest profiles and Weight Loss Panels**  
**CARDIOVASCULAR RISK PROFILE**  
 Total Cholesterol      Cholesterol/HDL Ratio  
 HDL Cholesterol      Estimated CHD Risk  
 LDL Cholesterol      Glucose  
 Triglycerides  
**LIVER FUNCTION PANEL**  
 AST (SGOT)      Total Bilirubin  
 ALT (SGPT)      Alkaline phosphatase  
 LDH  
**KIDNEY FUNCTION PANEL**  
 BUN      BUN/Creatinine Ratio  
 Creatinine      Uric Acid  
**BLOOD PROTEIN LEVELS**  
 Total Protein      Globulin  
 Albumin      Albumin/Globulin Ratio  
**BLOOD COUNT/RED AND WHITE BLOOD CELL PROFILE**  
 Red Blood Cell Count      Monocytes  
 White Blood Cell Count      Lymphocytes  
 Eosinophils      Platelet Count  
 Basophils      Hemoglobin  
 Polys (Absolute)      Hematocrit  
 Lymphs (Absolute)      MCV  
 Monocytes (Absolute)      MCH  
 Eos (Absolute)      MCHC  
 Baso (Absolute)      Polynucleated Cells  
 RDW  
**BLOOD MINERAL PANEL**  
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 Potassium      Chloride  
 Phosphorus      Iron
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 CBC/Chemistry Profile (see description above), DHEA-S, Estradiol, C-Reactive Protein (high-sensitivity), Progesterone, free and total Testosterone, TSH, SHBG, Free T3, Free T4, Insulin.
- MALE WEIGHT LOSS PANEL (LCWLM)** \$224.25  
 CBC/Chemistry Profile (see description above), DHEA-S, Estradiol, C-Reactive Protein (high-sensitivity), PSA, free and total Testosterone, TSH, SHBG, Free T3, Free T4, Insulin.
- LIFE EXTENSION THYROID PANEL (LC304131)** \$56.25  
 TSH, T4, Free T3, Free T4
- FEMALE HORMONE RE-TEST PROFILE\* (LCRTF)** \$187.50  
 CBC/Chemistry Profile (see description above), 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.
- MALE HORMONE RE-TEST PROFILE\* (LCRTM)** \$206.25  
 CBC/Chemistry Profile (see description above), DHEA-S, 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.
- DR. LICHTEN COMPREHENSIVE THYROID PANEL (LICHTEN02)** \$283.50  
 TSH, T4, Free T3, Reverse T3, Thyroid antibodies, Thyroid peroxidase antibodies, Red cell magnesium, vitamin D(25-OH).
- DR. LICHTEN CARDIAC RISK FACTORS\* (LICHTEN05)** \$147  
 Homocysteine, C-Reactive Protein, Ferritin, Fibrinogen, ABO, and Rh blood typing.

## POPULAR SINGLE TESTS

- IGF-1 (LC010363)** \$56.25  
 Indicates growth hormone secretion levels. Low levels have been associated with atherosclerosis as well as all-cause mortality.
- DHEA-SULFATE (LC004697)** \$45.75  
 This test shows if you are taking the proper amount of DHEA.
- DIHYDROTESTOSTERONE (DHT)\* (LC500142)** \$74.25  
 Measures serum concentrations of DHT.
- ESTRADIOL (LC004515)** \$24.75  
 For men and women. Determines the proper amount in the body.
- FREE-PSA (INCLUDES TOTAL PSA)\* (LC480780)** \$45.75  
 Recommended to determine if an elevated PSA is indicative of prostate cancer.
- FREE AND TOTAL TESTOSTERONE (LC140103)** \$74.25  
 Determines whether testosterone replacement should be considered as a therapy for depression, abdominal obesity, low energy, poor mental performance, or loss of libido.
- PROGESTERONE (LC004317)** \$41.25  
 Primarily for women. Determines the proper amount in the body.
- PREGNENOLONE† (LC140707)** \$87  
 Used to determine ovarian failure, hirsutism, adrenal carcinoma, and Cushing's syndrome.
- RBC MAGNESIUM (LC080283)** \$66  
 Magnesium plays many vital roles in preventing heart disease, controlling blood pressure, and maintaining healthy cholesterol levels.
- REVERSE T3 (LC002212)** \$41.25  
 Having high levels of reverse T3 is known as thyroid resistance and produces symptoms of low thyroid function (hypothyroidism).

\*Certain tests need to be shipped to the lab on dry ice for customers using a blood draw kit, and incur an additional \$35 charge. If you are going to LabCorp, this charge **does not** apply.

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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-Tyrosine Tablets  
Mega L-Glutathione Capsules  
N-Acetyl Cysteine Capsules  
Optimized Carnitine with GlycoCarn®  
PharmaGABA  
Super Carnosine Capsules  
Taurine Capsules  
Tryptopure® Tryptophan  
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ArthroMax™ with Theaflavins  
Bone-Up™  
Bone Restore™  
Bone Strength Formula w/KoAct™  
Chondroitin Sulfate  
Chondrox  
Fast Acting Joint Formula  
Glucosamine Chondroitin Capsules

## BRAIN HEALTH

Acetyl-L-Carnitine  
Acetyl-L-Carnitine-Arginate  
CDP Choline Capsules  
Cognitex with NeuroProtection Complex  
Cognitex with Pregnenolone &  
NeuroProtection Complex  
Cognitex Basics  
DMAE  
DMAE-Ginkgo  
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  
N-Zimes™  
Pancreatin  
Primal Defense™  
Regimint  
Saccharomyces Boulardii+mos

## DURK AND SANDY PRODUCTS

Blast™  
Dual-C  
Inner Power™  
Memory Upgrade™

## EYE CARE

Bilberry Extract  
Blackcurrant Freeze Dried Extract

Brite Eyes III  
Eye Pressure Support with Mirtogenol®  
Overxcast Polarized Sunglasses  
Solarshield Sunglasses  
Super Zeaxanthin with Lutein &  
Meso-Zeaxanthin and C3G  
(Plus Astaxanthin also available)  
Vision Optimizer

## FIBER

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

## FOOD

Asian Cruciferous Vegetable Soup  
Cruciferous Vegetable Soup

## HAIR CARE

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

## HEART HEALTH

Advanced Lipid Control  
Aspirin (Enteric Coated)  
Cho-Less™  
D-Ribose Capsules  
D-Ribose Powder  
Endothelial Defense™ with  
Full-Spectrum Pomegranate™  
Fibrinogen Resist  
Forskolin  
Homocysteine Resist  
Natural BP Management  
Peak ATP® with GlycoCarn®  
Policosanol  
Red Yeast Rice  
Super Absorbable CoQ10™ with *d*-Limonene  
Super Omega-3 EPA/DHA with Sesame  
Lignans & Olive Fruit Extract  
Super Ubiquinol CoQ10  
Super Ubiquinol CoQ10 with Enhanced  
Mitochondrial™ Support  
Sytrinol™  
Theaflavin Standardized Extract  
TMG Powder  
TMG Tablets

## HERBAL/PHYTO PRODUCTS

Artichoke Leaf Extract  
Astaxanthin  
Berry Complete  
Blackcurrant Juice Concentrate  
Blueberry Extract  
Blueberry Extract w/Pomegranate  
Butterbur Extract w/Standardized  
Rosmarinic Acid  
Calcium D-Glucarate  
Cilantro Herbal Extract  
Citrus Bioflavonoid  
Enhanced Berry Complete with RZD™ Acai  
Full-Spectrum Pomegranate™  
Grapeseed Extract with Resveratrol &  
Pterostilbene  
Huperzine A with Natural Vitamin E  
Kyolic® Garlic Formula 105  
Kyolic® Reserve  
Mega Green Tea Extract  
Mega Green Tea Extract (Decaffeinated)  
Mega Lycopene Extract  
Nutrim  
Optimized Ashwagandha Extract  
Pomegranate Extract  
Pomegranate Juice Concentrate  
ProGreens®  
Pure-Gar™  
Pycnogenol  
Optimized Quercetin  
Resveratrol with Synergistic Grape-Berry Actives  
Rhodiola Extract  
Rosmarinic Acid Extract  
Silymarin

SODzyme™ with GliSODin®  
Stevia Extract  
Super Bio-Curcumin®  
Super 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  
Lifesield® Immunity™  
Maitake SX-Fraction  
Norwegian Shark Liver Oil  
Optimized Fucoidan w/Maritech® 926  
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  
Boswellia  
Boswellia™ Topical Cream  
Bromelain (Specially-coated)  
Coromega Kids Brain and Body (DHA)  
DHA 240  
Emulsified Norwegian Cod Liver Oil  
Emulsified Super Twin EPA/DHA  
Fast Acting Joint Formula  
Ginger Force  
Krill Oil  
5-LOXIN®  
Mega EPA/DHA  
Mega GLA with Sesame Lignans  
MSM  
Natural Relief 1222™ Cream  
Serraflazyme  
SODzyme™ with GliSODin® and Wolfberry  
Super Omega-3 EPA/DHA with Sesame  
Lignans & Olive Fruit Extract  
Tart Cherry  
Udo's Choice Oil  
Zyflamend Easy

## LIVER HEALTH

Branch Chain Amino Acids  
N-Acetyl Cysteine  
Liver Force  
Certified European Milk Thistle  
PhosCho® (Nutrasal)  
SAME  
Silymarin

## MINERALS

Biosil  
Bone Restore  
Bone Strength Formula w/KoAct™  
Bone-Up™  
Boron Capsules

Calcium Citrate with D3  
Chromium Ultra  
Copper  
Dr. Strum's Intensive Bone Formula  
Iodoral  
Iron Protein Plus  
Magnesium  
Magnesium Citrate  
Mineral Formula for Men  
Mineral Formula for Women  
Only Trace Minerals  
Optimized Chromium w/Crominex® 3+  
OptiZinc  
Sea-Iodine™  
Selenium  
Se-Methyl L-Selenocysteine  
Strontium  
Vanadyl Sulfate  
Zinc/Vitamin C Lozenges

## MISCELLANEOUS

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

## MITOCHONDRIAL SUPPORT

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

## MOOD RELIEF

Bioactive Milk Peptides  
L-Theanine  
5 HTP  
Enhanced Natural Sleep® w/ Melatonin  
Enhanced Natural Sleep® w/o Melatonin  
Natural Stress Relief  
Optimized Tryptopure™ Plus  
Stabilium® 200  
SAME  
St. John's Wort Extract  
Tryptopure™ L-Tryptophan

## MOUTH CARE

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

## MULTIVITAMIN

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

Cat Mix  
Dog Mix

## PROSTATE & URINARY HEALTH

BetterWOMAN®  
Optimized Cran-Max® with UTIRose™  
5-LOXIN®

(Water-Soluble) Pumpkin Seed Extract  
Super Saw Palmetto with Beta-Sitosterol  
Super Saw Palmetto/Nettle Root Formula w/Beta-Sitosterol  
Ultra Natural Prostate Formula

## SKIN CARE

Advanced Under Eye Serum with Stem Cells  
Amber Self MicroDermabrasion  
Anti-Aging Mask  
Anti-Glycation Serum  
Antioxidant Rejuvenating Foot Cream  
Antioxidant Rejuvenating Foot Scrub  
Antioxidant Rejuvenating Hand Cream  
Antioxidant Rejuvenating Hand Scrub  
Anti-Redness & Blemish Lotion  
Cellulite Suppress™ Formula  
Corrective Clearing Mask  
DermaWhey  
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 Formula All-in-One Cream  
Healing Mask  
Hyaluronic Facial Moisturizer  
Hydrating Anti-oxidant Face Mist  
Hydroderm®  
Lavilin Underarm Deodorant  
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 Restoring Ceramides w/Lipowheat™  
Skin Stem Cell Serum  
Sun Protection Spray  
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 Protein Concentrate  
Super Absorbable Soy Isoflavones  
Ultra Soy Extract

## SPECIAL PURPOSE FORMULA

Anti-Alcohol Antioxidants w/HepatoProtection Complex  
Benfotiamine w/Thiamine  
Breast Health Formula  
Butterbur Extract w/Standardized Rosmarinic Acid  
Chlorella  
Chlorophyllin w/Zinc  
Cleanse Smart  
Coriolus Super Strength  
CR Mimetic Longevity Formula  
Derma-Vits™  
Cinsulin® w/InSea2™  
and Crominex® 3+  
EDTA  
European Leg Solution Diosmin 95  
Fem Dophilus  
Femmenessence MacaPause®  
Flush & Be Fit

GlucoFit™  
Ideal Bowel Support 299  
Lustre™  
Maitake SX-Fraction™  
Menopause Solutions  
Migra-eeze™  
Natural Female Support  
Organic Total Body Cleanse  
Pecta-Sol®  
Potassium Iodide  
PQQ Caps with BioPQQ™  
PteroPure™  
Prelox® Natural Sex for Men®  
Pyridoxal 5' - Phosphate  
Rosmarinic Acid Extract

## SPORTS PERFORMANCE

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

## VITAMINS

Ascorbic Acid Powder  
Ascorbyl Palmitate Capsules  
B1  
B2  
B12  
Beta-Carotene  
Biotin Capsules  
Biotin Powder  
Buffered Vitamin C Powder  
Complete B Complex  
Essential Fat-Soluble Nutrient  
Folic Acid + B12  
Gamma E Tocopherol w/Sesame Lignans  
Gamma E Tocopherol/Tocotrienols  
Inositol Capsules  
Inositol Powder  
Mega Lycopene Extract  
Methylcobalamin  
MK-7  
No-Flush Niacin  
Optimized Folate  
PABA Capsules  
Super Ascorbate C Capsules  
Super Ascorbate C Powder  
Super K w/Advanced K2 Complex  
Tocotrienols w/Sesame Lignans  
Vitamin A Nutrisorb  
Vitamin B3 (Niacin) Capsules  
Vitamin B6  
Vitamin B12 Tablets  
Vitamin C  
Vitamin D  
Vitamin D3  
Vitamin D3 w/Sea-Iodine™  
Vitamins D and K w/Sea-Iodine™  
Vitamin E  
Vitamin K1

## WEIGHT MANAGEMENT

Alli® Refill Pack  
Belly Slim & Tone  
Calorie Control Weight Management Formula  
7-Keto DHEA  
DHEA Complete  
Fucoxanthin Slim™  
HCA  
Integra-Lean® Irvingia  
LuraLean® Caps Special Propolmannan Particle Size  
Optimized Irvingia w/Phase 3™ Calorie Control Complex  
Optimized Saffron with Satiereal®  
Natural Appetite Control  
Natural Glucose Absorption Control  
Stevia Liquid Extract  
Super CLA Blend w/Guarana and Sesame Lignans  
Super CLA Blend w/Sesame Lignans  
Udo's Choice Wholesome Fast Food Blend  
WellBetX PGX® Soluble Fiber Blend

# Buyers Club Order Form

To order call: 1.954.766.8433 or 1.800.544.4440

No.		Retail Each	Member Each	Qty	Total
<b>A</b>					
00449	<b>ACETYL-L-CARNITINE</b> - 500 mg, 100 caps	\$56.00	\$42.00		
	Buy 4 bottles, price each	46.66	35.00		
00788	<b>ACETYL-L-CARNITINE ARGINATE</b> - 100 caps	59.00	44.25		
	Buy 4 bottles, price each	50.99	38.24		
01308	<b>ADVANCED LIPID CONTROL</b> - 60 veg. caps	30.00	22.50		
	Buy 4 bottles, price each	27.00	20.25		
01300	<b>ADVANCED ORAL HYGIENE</b> - 60 veg. mint lozenges	20.00	15.00		
	Buy 4 bottles, price each	18.00	13.50		
01417	<b>AGAVE DIGESTIVE-IMMUNE SUPPORT</b> - 360 grams powder	30.00	22.50		
	Buy 4 jars, price each	27.00	20.25		
00681	<b>AHCC</b> - 500 mg, 30 caps	48.98	36.74		
	Buy 4 bottles, price each	43.55	32.66		
*46925	<b>ALLI® REFILL PACK</b> - 120 caps	69.95	58.00		
00457	<b>ALPHA-LIPOIC ACID w/BIOTIN (SUPER)</b> - 250 mg, 60 caps	37.00	27.75		
	Buy 4 bottles, price each	32.00	24.00		
01440	<b>ANTI-ALCOHOL ANTIOXIDANTS w/HEPATOPRO</b> - 100 caps	26.00	19.50		
	Buy 4 bottles, price each	23.00	17.25		
00105	<b>APPLE PECTIN POWDER</b> - 227 grams	14.75	11.06		
	Buy 4 bottles, price each	13.75	10.31		
01012	<b>ARGININE CAPS</b> - 800 mg, 200 caps	26.50	19.88		
	Buy 4 bottles, price each	23.25	17.44		
01039	<b>ARGININE/ORNITHINE</b> - 500/250, 100 caps	16.00	12.00		
	Buy 4 bottles, price each	14.50	10.88		
00038	<b>ARGININE/ORNITHINE POWDER</b> - 150 grams	22.95	17.21		
	Buy 4 bottles, price each	19.00	14.25		
01025	<b>(L)-ARGININE FREE-FORM POWDER</b> - 100 grams	15.98	11.99		
	Buy 4 bottles, price each	14.31	10.73		
01317	<b>ARTHROMAX™ w/THEAFLAVINS</b> - 120 veg. caps	44.00	33.00		
	Buy 4 bottles, price each	40.00	30.00		
01404	<b>ARTHRO-IMMUNE JOINT SUPPORT</b> - 60 veg. caps	30.00	22.50		
	Buy 4 bottles, price each	26.00	19.50		
00919	<b>ARTICHOKE LEAF EXTRACT</b> - 500 mg, 180 veg. caps	28.00	21.00		
	Buy 4 bottles, price each	25.38	19.04		
00086	<b>ASCORBATE C (SUPER)</b> - 8 oz powder	26.99	20.24		
	Buy 4 bottles, price each	24.87	18.65		
00080	<b>ASCORBIC ACID POWDER</b> - 454 grams	38.00	28.50		
	Buy 4 bottles, price each	34.93	26.20		
00082	<b>ASCORBYL PALMITATE</b> - 500 mg, 100 caps	22.50	16.88		
	Buy 4 bottles, price each	20.00	15.00		
00888	<b>ASHWAGANDHA EXTRACT (OPTIMIZED)</b> - 60 veg. caps	10.00	7.50		
	Buy 4 bottles, price each	9.00	6.75		
01066	<b>ASPIRIN</b> - 81 mg, 300 enteric coated tablets	6.00	4.50		
	Buy 4 bottles, price each	5.33	4.00		
00708	<b>ASTAXANTHIN</b> - 2 mg, 30 softgels	10.25	7.69		

**SUB-TOTAL OF COLUMN 1**

No.		Retail Each	Member Each	Qty	Total
<b>B</b>					
01040	<b>BELLY SLIM &amp; TONE</b> - 6 fl oz	\$42.00	\$31.50		
	Buy 4 bottles, price each	38.00	28.50		
00920	<b>BENFOTIAMINE w/ THIAMINE</b> - 100 mg, 120 veg. caps	19.95	14.96		
	Buy 4 bottles, price each	18.60	13.95		
00925	<b>BENFOTIAMINE (MEGA)</b> - 250 mg, 120 veg. caps	30.00	22.50		
	Buy 4 bottles, price each	27.00	20.25		
01206	<b>BERRY COMPLETE</b> - 30 veg. caps	21.00	15.75		
	Buy 4 bottles, price each	18.67	14.00		
01406	<b>BERRY COMPLETE w/RZD™ ACAI (ENHANCED)</b> - 60 veg. caps	29.00	21.75		
	Buy 4 bottles, price each	26.00	19.50		
00664	<b>BETA-CAROTENE</b> - 25,000 IU, 100 softgels	10.98	8.24		
	Buy 4 bottles, price each	9.83	7.37		
00653	<b>BETTERWOMAN®</b> -40 caps	40.00	30.00		
	Buy 4 bottles, price each	38.00	28.50		
01073	<b>BILBERRY EXTRACT</b> - 100 mg, 100 veg. caps	28.00	21.00		
	Buy 4 bottles, price each	25.00	18.75		
01512	<b>BIOACTIVE MILK PEPTIDES</b> - 30 caps	18.00	13.50		
	Buy 4 bottles, price each	16.00	12.00		
*01006	<b>BIOSIL™</b> - 5 mg, 30 veg. caps	18.95	15.16		
*01007	<b>BIOSIL™</b> - 1 fl oz	29.99	23.99		
00102	<b>BIOTIN</b> - 600 mcg, 100 caps	7.50	5.63		
	Buy 4 bottles, price each	6.50	4.88		
00145	<b>BIOTIN POWDER</b> - 30 grams	12.50	9.38		
	Buy 4 bottles, price each	11.00	8.25		
01037	<b>BLACKCURRANT FREEZE DRIED EXTRACT</b> - 60 veg. caps	21.95	16.46		
01034	<b>BLACKCURRANT JUICE CONCENTRATE</b> - 12 fl. oz	17.95	13.46		
01008	<b>BLAST™</b> - 600 grams of powder	26.95	20.21		
70000	<b>BLOOD PRESSURE MONITOR-ARM CUFF</b> (medium)	99.95	64.97		
70001	<b>BLOOD PRESSURE MONITOR-WRIST</b> (travel size)	69.95	45.47		
01214	<b>BLUEBERRY EXTRACT</b> - 60 veg. caps	22.50	16.88		
	Buy 4 bottles, price each	20.00	15.00		
01438	<b>BLUEBERRY EXTRACT w/ POMEGRANATE</b> - 60 veg. caps	30.00	22.50		
	Buy 4 bottles, price each	27.00	20.25		
01506	<b>BONE FORMULA (DR. STRUM'S INTENSIVE)</b> - 300 veg. caps	56.00	42.00		
	Buy 4 bottles, price each	50.00	37.50		
00811	<b>BONE RESTORE</b> - 150 caps	22.50	16.88		
	Buy 4 bottles, price each	19.50	14.63		
01211	<b>BONE STRENGTH FORMULA w/KOACT™</b> - 120 caps	42.00	31.50		
	Buy 4 bottles, price each	38.00	28.50		
00313	<b>BONE-UP®</b> - 240 caps	24.95	18.71		
	Buy 4 bottles, price each	22.50	16.88		
01379	<b>BOOSTER</b> - 60 softgels	48.00	36.00		
	Buy 4 bottles, price each	44.00	33.00		
01580	<b>BOOSTER w/ADVANCED K2 COMPLEX (SUPER)</b> - 60 softgels	42.00	31.50		
	Buy 4 bottles, price each	38.00	28.50		
00621	<b>BORON</b> - 3 mg, 100 caps	5.95	4.46		
	Buy 4 bottles, price each	5.25	3.94		
00202	<b>BOSWELLA</b> - 100 caps	38.00	28.50		
	Buy 4 bottles, price each	30.00	22.50		
00258	<b>BOSWELLA TOPICAL CREAM</b> - 4 oz	15.00	11.25		
	Buy 4 jars, price each	13.00	9.75		
01253	<b>BRANCHED CHAIN AMINO ACIDS</b> - 90 vegetarian caps	19.50	14.63		
	Buy 4 bottles, price each	17.00	12.75		

**SUB-TOTAL OF COLUMN 2**

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

**SUB-TOTAL OF COLUMN 3**

No.		Retail Each	Member Each	Qty	Total
01503	<b>CINSULIN® w/INSEA™ AND CROMINEX® 3+</b> - 90 veg. caps Buy 4 bottles, price each	\$38.00 34.00	\$28.50 25.50		
00069	<b>CITRUS BIOFLAVONOID</b> - 100 caps Buy 4 bottles, price each	15.99 14.82	11.99 11.12		
00818	<b>CLA BLEND w/SESAME LIGNANS (SUPER)</b> - 1000 mg, 120 softgels Buy 4 bottles, price each Buy 10 bottles, price each	36.00 33.00 26.33	27.00 24.75 19.75		
00819	<b>CLA BLEND w/GUARANA &amp; SESAME (SUPER)</b> -1000 mg, 120 softgels Buy 4 bottles, price each	42.00 38.33	31.50 28.75		
01078	<b>CLEANSE SMART</b> - 60 caps	31.99	23.99		
00050	<b>COD LIVER OIL (EMULSIFIED)</b> - 12 fl oz (355 ml) Buy 4 bottles, price each	14.58 12.27	10.94 9.20		
00293	<b>COD LIVER OIL (EMULSIFIED)</b> - 100 softgels (Emulsified) Buy 4 bottles, price each	9.95 9.38	7.46 7.04		
00922	<b>COGNITEX w/PREGNENOLONE &amp; NEUROPROTECTION COMPLEX</b> - 90 softgels Buy 4 bottles, price each Buy 12 bottles, price each	74.00 66.60 64.00	55.50 49.95 48.00		
00921	<b>COGNITEX w/α PREGNENOLONE w/NEUROPROTECTION COMPLEX</b> - 90 softgels Buy 4 bottles, price each Buy 12 bottles, price each	72.00 64.00 62.00	54.00 48.00 46.50		
01421	<b>COGNITEX BASICS</b> - 60 softgels Buy 4 bottles, price each Buy 12 bottles, price each	38.00 35.00 32.00	28.50 26.25 24.00		
00110	<b>COMPLETE B-COMPLEX</b> - 180 caps Buy 4 bottles, price each	21.50 18.00	16.13 13.50		
01574	<b>COMPREHENSIVE NUTRIENT PACK</b> - 30-day supply Buy 4 bottles, price each	189.00 171.00	141.75 128.25		
00119	<b>COPPER CAPSULES</b> - 2 mg, 100 caps Buy 4 bottles, price each	8.95 8.09	6.71 6.07		
00949	<b>COQ10™ w/ d-LIMONENE (SUPER ABSORBABLE)</b> - 50 mg, 60 softgels Buy 4 bottles, price each Buy 12 bottles, price each	25.00 22.00 20.00	18.75 16.50 15.00		
00950	<b>COQ10™ w/ d-LIMONENE (SUPER ABSORBABLE)</b> - 100 mg, 100 softgels Buy 4 bottles, price each Buy 12 bottles, price each	66.00 60.00 56.00	49.50 45.00 42.00		
01226	<b>COQ10 (SUPER UBIQUINOL)</b> - 100 mg, 60 softgels Buy 4 bottles, price each Buy 12 bottles, price each	56.00 52.00 48.00	42.00 39.00 36.00		
01426	<b>COQ10 w/ENH MITOCHONDRIAL SUPPORT™ (SUPER UBIQUINOL)</b> -100 mg, 60 softgels Buy 4 bottles, price each Buy 12 bottles, price each	62.00 56.00 52.00	46.50 42.00 39.00		
01425	<b>COQ10 w/ENH MITOCHONDRIAL SUPPORT™ (SUPER UBIQUINOL)</b> -50 mg, 100 softgels Buy 4 bottles, price each Buy 10 bottles, price each	58.00 53.00 50.00	43.50 39.75 37.50		
01427	<b>COQ10 w/ENH MITOCHONDRIAL SUPPORT™ (SUPER UBIQUINOL)</b> -50 mg, 30 softgels Buy 4 bottles, price each	20.00 18.00	15.00 13.50		
01431	<b>COQ10 w/ENH MITOCHONDRIAL SUPPORT™ (SUPER UBIQUINOL)</b> -200 mg, 30 softgels Buy 4 bottles, price each Buy 10 bottles, price each	62.00 56.00 52.00	46.50 42.00 39.00		
01053	<b>CORIOLUS SUPER STRENGTH</b> - 600 mg, 150 veg. caps	99.95	74.96		
00857	<b>COROMEGA CHILD BRAIN &amp; BODY</b> - (Lemon Lime) 30 packets Buy 4 boxes, price each	25.00 22.50	18.75 16.75		

**SUB-TOTAL OF COLUMN 4**

# Buyers Club Order Form

To order call: 1.954.766.8433 or 1.800.544.4440

No.		Retail Each	Member Each	Qty	Total
<b>C CONTINUED</b>					
80140	<b>COSMESIS ADVANCED UNDER EYE SERUM w/STEM CELLS - 33 oz</b> Buy 2 bottles, price each	\$49.00 42.00	\$36.75 31.50		
80139	<b>COSMESIS AMBER SELF MICRODERMABRASION - 2 oz</b> Buy 2 jars, price each	49.00 42.00	36.75 31.50		
80118	<b>COSMESIS ANTI-AGING MASK - 2 oz</b> Buy 2 bottles, price each	72.00 63.36	54.00 47.52		
80134	<b>COSMESIS ANTI-GLYCATION SERUM - 1 oz</b> <b>W/BLUEBERRY &amp; POMEGRANATE EXTRACTS</b> Buy 2 bottles, price each	33.00 31.35	24.75 23.51		
80133	<b>COSMESIS ANTIOXIDANT FACIAL MIST - 2 oz</b> Buy 2 bottles, price each	32.00 30.40	24.00 22.80		
80127	<b>COSMESIS ANTIOXIDANT REJUVENATING FOOT CREAM - 2 oz</b> Buy 2 jars, price each	45.00 42.80	33.75 32.10		
80128	<b>COSMESIS ANTIOXIDANT REJUVENATING FOOT SCRUB - 2 oz</b> Buy 2 jars, price each	59.00 51.92	44.25 38.94		
80117	<b>COSMESIS ANTIOXIDANT REJUVENATING HAND CREAM - 2 oz</b> Buy 2 jars, price each	64.00 57.49	48.00 43.12		
80121	<b>COSMESIS ANTIOXIDANT REJUVENATING HAND SCRUB - 2 oz</b> Buy 2 jars, price each	58.00 51.04	43.50 38.28		
80105	<b>COSMESIS ANTI-REDNESS &amp; BLEMISH LOTION - 1 oz</b> Buy 2 bottles, price each	74.50 65.56	55.88 49.17		
80120	<b>COSMESIS CORRECTIVE CLEARING MASK - 2 oz</b> Buy 2 jars, price each	64.50 56.76	48.38 42.57		
80108	<b>COSMESIS ESSENTIAL PLANT LIPIDS REPARATIVE SERUM - 1 oz</b> Buy 2 bottles, price each	74.95 65.95	56.21 49.46		
80123	<b>COSMESIS FACE REJUVENATING ANTIOXIDANT CREAM - 2 oz</b> Buy 2 jars, price each	69.50 61.16	52.13 45.87		
80107	<b>COSMESIS FINE LINE-LESS - 1 oz</b> Buy 2 bottles, price each	74.50 65.56	55.88 49.17		
80131	<b>COSMESIS HAIR SUPPRESS FORMULA - 4 oz</b> Buy 2 bottles, price each	59.00 51.92	44.25 38.94		
80137	<b>COSMESIS HEALING FORMULA ALL-IN-ONE CREAM - 1 oz</b> Buy 2 jars, price each	53.00 45.43	39.75 34.07		
80115	<b>COSMESIS HEALING MASK - 2 oz</b> Buy 2 bottles, price each	64.50 56.76	48.38 42.57		
80109	<b>COSMESIS HYALURONIC FACIAL MOISTURIZER - 1 oz</b> Buy 2 bottles, price each	58.00 51.04	43.50 38.28		
80110	<b>COSMESIS HYALURONIC OIL-FREE FACIAL MOISTURIZER - 1 oz</b> Buy 2 bottles, price each	58.00 51.04	43.50 38.28		
80138	<b>COSMESIS HYDRATING ANTI-OXIDANT FACE MIST - 4 oz</b> Buy 2 bottles, price each	39.95 38.00	29.96 28.50		
80103	<b>COSMESIS LIFTING &amp; TIGHTENING COMPLEX - 1 oz</b> Buy 2 bottles, price each	74.50 65.56	55.88 49.17		
80135	<b>COSMESIS MELATONIN CREAM - 1 oz</b> Buy 2 jars, price each	33.00 27.10	24.75 20.33		
80114	<b>COSMESIS MILD FACIAL CLEANSER - 8 oz</b> Buy 2 bottles, price each	59.00 51.92	44.25 38.94		
80122	<b>COSMESIS NECK REJUVENATING ANTIOXIDANT CREAM - 2 oz</b> Buy 2 jars, price each	64.00 56.32	48.00 42.24		
80119	<b>COSMESIS PEEL OFF CLEANSING MASK - 2 oz</b> Buy 2 bottles, price each	64.50 56.76	48.38 42.57		
80111	<b>COSMESIS PIGMENT CORRECTING CREAM - 1/2 oz</b> Buy 2 bottles, price each	74.00 65.12	55.50 48.84		
80106	<b>COSMESIS REJUVENATING SERUM - 1 oz</b> Buy 2 bottles, price each	74.50 65.56	55.88 49.17		

**SUB-TOTAL OF COLUMN 5**

No.		Retail Each	Member Each	Qty	Total
80112	<b>COSMESIS SKIN LIGHTENING SERUM - 1/2 oz</b> Buy 2 bottles, price each	\$85.00 74.80	\$63.75 56.10		
80130	<b>COSMESIS SKIN STEM CELL SERUM - 1 oz</b> Buy 2 bottles, price each	74.00 69.00	55.50 51.75		
80116	<b>COSMESIS ULTRA LIP PLUMPER - 1/3 oz</b> Buy 2 bottles, price each	64.00 56.32	48.00 42.24		
80101	<b>COSMESIS ULTRA WRINKLE RELAXER - 1 oz</b> Buy 2 bottles, price each	89.95 79.76	67.46 59.82		
80113	<b>COSMESIS UNDER EYE REFINING SERUM - 1/2 oz</b> Buy 2 bottles, price each	74.50 65.56	55.88 49.17		
80104	<b>COSMESIS UNDER EYE RESCUE CREAM - 1/2 oz</b> Buy 2 bottles, price each	74.50 65.56	55.88 49.17		
80129	<b>COSMESIS VITAMIN C SERUM - 1 oz</b> Buy 2 bottles, price each	85.00 74.80	63.75 56.10		
80136	<b>COSMESIS VITAMIN D LOTION - 4 oz</b> Buy 2 bottles, price each	36.00 33.66	27.00 25.25		
80102	<b>COSMESIS VITAMIN K HEALING CREAM - 1 oz</b> Buy 2 bottles, price each	79.50 69.96	59.63 52.47		
00862	<b>CRAN-MAX® - 500 mg, 60 veg. caps</b> Buy 4 bottles, price each	17.50 15.00	13.13 11.25		
01424	<b>CRAN-MAX® with UTIROSE™ (OPTIMIZED) - 60 veg. caps</b> Buy 4 bottles, price each	18.00 16.00	13.50 12.00		
00609	<b>CREATINE CAPSULES - 120 caps</b> Buy 4 bottles, price each	10.95 9.25	8.21 6.94		
00610	<b>CREATINE POWDER - 500 grams</b> Buy 4 bottles, price each	29.00 26.63	21.75 19.97		
01096	<b>CREATINE WHEY GLUTAMINE POWDER - 1000 grams (vanilla)</b> Buy 4 bottles, price each	45.00 42.00	33.75 31.50		
~01089	<b>CRUCIFEROUS VEGETABLE SOUP - 32 oz. pouch</b> Buy 6 pouches, price each	11.95 11.25	8.96 8.44		
~01090	<b>(ASIAN) CRUCIFEROUS VEGETABLE SOUP - 32 oz. pouch</b> Buy 6 pouches, price each	11.95 11.25	8.96 8.44		
01429	<b>CR MIMETIC LONGEVITY FORMULA - 60 veg. caps</b> Buy 4 bottles, price each	39.00 36.00	29.25 27.00		
***CRWAY	<b>CR WAY OPTIMAL HEALTH PROGRAM SOFTWARE</b>	195.00	195.00		
00912	<b>CURCUMIN W/BIOPERINE® (SUPER) - 800 mg, 60 caps</b> Buy 4 bottles, price each	26.00 24.00	19.50 18.00		
00407	<b>CURCUMIN® (SUPER BIO) - 400 mg, 60 veg. caps</b> Buy 4 bottles, price each	35.00 32.00	26.25 24.00		
00064	<b>(L) CYSTEINE - 500 mg, 60 caps</b> Buy 4 bottles, price each	18.95 16.31	14.21 12.23		
<b>D</b>					
01063	<b>DERMA-VITS™ - 90 caps</b>	\$14.99	\$11.24		
01313	<b>DERMAWHEY - 400 mg, 60 caps</b> Buy 4 bottles, price each	65.00 59.00	48.75 44.25		
00856	<b>DHA (BARLEAN'S KID'S) 8 fl. oz (Fruit Punch)</b> Buy 4 bottles, price each	22.00 20.00	16.50 15.00		
00995	<b>DHA 240 - 240 mg, 60 softgels</b> Buy 4 bottles, price each	19.00 17.00	14.25 12.75		
00658	<b>7-KETO® DHEA METABOLITE - 25 mg, 100 caps</b> Buy 4 bottles, price each	28.00 24.00	21.00 18.00		
01271	<b>7-KETO® DHEA METABOLITE - 100 mg, 60 veg. caps</b> Buy 4 bottles, price each	40.00 36.00	30.00 27.00		
00607	<b>DHEA - 25 mg, 100 tablets</b> Buy 4 bottles, price each	14.00 11.75	10.50 8.81		

**SUB-TOTAL OF COLUMN 6**

To order online visit: [www.lifeextension.com](http://www.lifeextension.com)

# Buyers Club Order Form

No.		Retail Each	Member Each	Qty	Total
01250	<b>DHEA COMPLETE</b> - 60 veg. caps Buy 4 bottles, price each	\$48.00 43.20	\$36.00 32.40		
00335	<b>DHEA</b> - 25 mg, 100 caps Buy 4 bottles, price each	15.00 12.50	11.25 9.38		
00454	<b>DHEA</b> - 15 mg, 100 caps Buy 4 bottles, price each	12.00 10.00	9.00 7.50		
00882	<b>DHEA</b> - 50 mg, 60 caps Buy 4 bottles, price each	16.00 14.00	12.00 10.50		
00883	<b>DHEA</b> - 100 mg, 60 caps Buy 4 bottles, price each	22.50 19.00	16.88 14.25		
01358	<b>DIGEST RC</b> - 30 tablets Buy 4 boxes, price each	19.95 17.00	14.96 12.75		
01272	<b>DIGESTIVE ENZYMES (ENHANCED SUPER)</b> - 100 veg. caps Buy 4 bottles, price each	18.95 16.00	14.21 12.00		
01273	<b>DIGESTIVE ENZYMES w/PROBIOTICS (ENHANCED SUPER)</b> - 100 veg. caps Buy 4 bottles, price each	24.00 22.00	18.00 16.50		
00034	<b>D,L-PHENYLALANINE CAPSULES</b> - 500 mg, 100 caps Buy 4 bottles, price each	18.75 16.00	14.06 12.00		
00257	<b>DMAE BITARTRATE</b> - 150 mg, 200 caps Buy 4 bottles, price each	14.00 10.50	10.50 7.88		
00197	<b>DMAE-GINKGO</b> - 100 caps Buy 4 bottles, price each Buy 8 bottles, price each	36.00 30.00 27.50	27.00 22.50 20.63		
00059	<b>DMG</b> - 125 mg, 60 tablets Buy 4 boxes, price each	18.50 17.00	13.88 12.75		
01547	<b>DNA PROTECTION FORMULA</b> - 60 veg. caps Buy 4 bottles, price each	30.00 28.00	22.50 21.00		
00544	<b>DOG MIX</b> - 100 grams powder Buy 4 bottles, price each	19.50 16.00	14.63 12.00		
00321	<b>DR. PROCTOR'S ADVANCED HAIR FORMULA</b> - 2 oz Buy 4 bottles, price each	39.95 32.00	29.96 24.00		
00320	<b>DR. PROCTOR'S HAIR FORMULA SHAMPOO</b> - 8 oz Buy 4 bottles, price each	24.95 22.00	18.71 16.50		
00376	<b>DR. TUNG'S TONGUE CLEANER</b> Buy 4 bottles, price each	8.45 8.05	6.34 6.04		
00899	<b>DUAL-ACTION MICRODERMABRASION ADV. EXFOLIATE</b> - 2.4 oz Buy 4 jars, price each	39.95 38.95	29.96 29.21		
00240	<b>DUAL-C</b> - 90 caps Buy 4 bottles, price each	12.00 10.50	9.00 7.88		

## E

00388	<b>ECHINACEA EXTRACT</b> - 250 mg, 60 caps Buy 4 bottles, price each	\$14.35 12.50	\$10.76 9.38		
01024	<b>EDTA</b> - 500 mg, 100 caps	17.50	13.13		
00048	<b>EMULSIFIED SUPER TWIN EPA/DHA</b> - 12 fl. oz.	22.45	16.84		
01498	<b>ENDOTHELIAL DEFENSE™ w/FULL-SPECTRUM POMEGRANATE™</b> - 60 softgels Buy 4 bottles, price each	56.00 52.00	42.00 39.00		
00997	<b>ENDOTHELIAL DEFENSE™ w/GLISODIN®</b> - 60 veg. caps Buy 4 bottles, price each	52.00 46.00	39.00 34.50		
00625	<b>EPA/DHA (MEGA)</b> - 120 softgels Buy 4 bottles, price each	19.95 18.00	14.96 13.50		
01428	<b>ESSENTIAL FAT-SOLUBLE NUTRIENTS</b> - 30 softgels Buy 4 bottles, price each	28.00 25.00	21.00 18.75		
**01042	<b>EUROPEAN LEG SOLUTION DIOSMIN 95</b> - 600 mg, 30 veg. tabs Buy 4 bottles, price each	20.00 18.00	15.00 13.50		
01514	<b>EYE PRESSURE SUPPORT w/MIRTOGENOL®</b> - 30 veg. caps Buy 4 bottles, price each	38.00 34.00	28.50 25.50		

**SUB-TOTAL OF COLUMN 7**

No.		Retail Each	Member Each	Qty	Total
<b>F</b>					
***01054	<b>FACE MASTER® PLATINUM</b>	\$199.00	\$199.00		
00965	<b>FAST-ACTING JOINT FORMULA</b> - 30 caps Buy 4 bottles, price each	39.00 36.00	29.25 27.00		
20053	<b>FEM DOPHILUS®</b> - 30 caps	25.95	19.46		
20055	<b>FEM DOPHILUS®</b> - 60 caps	39.95	29.96		
01064	<b>FEMMESENCE MACAPAUSE®</b> - 120 veg. caps	34.99	26.24		
*01311	<b>FERNBLOCK® w/SENDARA™ (ENHANCED)</b> - 30 veg. caps Buy 4 bottles, price each	39.00 35.00	29.25 26.25		
00229	<b>FIBER FOOD CAPS</b> - 200 caps Buy 4 bottles, price each Buy 10 bottles, price each	15.00 12.50 11.90	11.25 9.38 8.93		
00718	<b>FIBRINOGEN RESIST™</b> - 30 veg. caps Buy 4 bottles, price each	49.00 44.00	36.75 33.00		
00873	<b>FLAXSEED POWDER (HI-LIGNAN® NUTRI-FLAX®)</b> - 16 oz powder	9.95	7.46		
01200	<b>FLORASTOR®</b> - 250 mg, 50 caps	55.15	41.36		
01212	<b>FLUSH + BE FIT</b> - 2- week cleanse for women	29.99	22.49		
01312	<b>FOLATE (OPTIMIZED) (L-METHYLFOLATE)</b> 1000 mcg - 100 veg. caps Buy 4 bottles, price each	28.00 25.00	21.00 18.75		
00347	<b>FOLIC ACID + B12 CAPSULES</b> - 200 caps Buy 4 bottles, price each	10.50 9.50	7.88 7.13		
00300	<b>FORSKOLIN</b> - 10 mg, 60 caps Buy 4 bottles, price each	15.00 12.50	11.25 9.38		
01513	<b>FUCOIDAN w/MARITECH® 926 (OPTIMIZED)</b> - 60 veg. caps Buy 4 bottles, price each	36.00 33.00	27.00 24.75		
00993	<b>FUCOXANTHIN-SLIM™</b> - 90 softgels Buy 4 bottles, price each	44.00 39.00	33.00 29.25		

## G

00127	<b>GABA POWDER</b> - 100 grams Buy 4 bottles, price each	\$23.75 22.50	\$17.81 16.88		
00559	<b>GAMMA E TOCOPHEROL/TOCOTRIENOLS</b> - 60 softgels Buy 4 bottles, price each	42.00 37.00	31.50 27.75		
00759	<b>GAMMA E TOCOPHEROL w/SESAME LIGNANS</b> - 60 softgels Buy 4 bottles, price each	32.00 29.00	24.00 21.75		
00117	<b>GELATIN CAPSULES</b> - 1000 empty caps size "00" Buy 4 bags, price each	19.00 18.00	14.25 13.50		
01301	<b>GH PITUITARY SUPPORT DAY FORMULA</b> - 120 vegetarian tabs Buy 4 bottles, price each	48.00 44.00	36.00 33.00		
01302	<b>GH PITUITARY SUPPORT NIGHT FORMULA</b> - 120 veg. caps Buy 4 bottles, price each	25.00 22.50	18.75 16.88		
01228	<b>GINGER FORCE</b> - 60 softgels	29.95	22.46		
00778	<b>GINKGO BILOBA CERTIFIED EXTRACT™</b> - 120 mg, 365 caps Buy 2 bottles, price each	46.00 43.50	34.50 32.63		
00504	<b>GINKGO EXTRACT (SUPER)</b> - 120 mg, 100 caps Buy 4 bottles, price each	29.00 26.50	21.75 19.88		
01032	<b>(PANAX RED) GINSENG</b> - 60 veg. caps	29.99	22.49		
00756	<b>GLA WITH SESAME LIGNANS (MEGA)</b> - 60 softgels Buy 4 bottles, price each	19.50 18.00	14.63 13.50		
00345	<b>(L) GLUTAMINE CAPSULES</b> - 500 mg, 100 caps Buy 4 bottles, price each	14.95 13.50	11.21 10.13		
00141	<b>(L)-GLUTAMINE POWDER</b> - 100 grams Buy 4 bottles, price each	19.00 16.88	14.25 12.66		
00522	<b>GLUCOSAMINE/CHONDROITIN CAPSULES</b> - 100 caps Buy 4 bottles, price each	38.00 32.00	28.50 24.00		
00512	<b>GLUCOFIT™</b> - 100 softgels Buy 4 bottles, price each	28.00 25.00	21.00 18.75		

**SUB-TOTAL OF COLUMN 8**

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

JUNE 2011

# Buyers Club Order Form

To order call: 1.954.766.8433 or 1.800.544.4440

No.		Retail Each	Member Each	Qty	Total
<b>G CONTINUED</b>					
00113	<b>GLUTATHIONE, CYSTEINE &amp; C</b> - 750 mg, 100 caps Buy 4 bottles, price each	\$18.00 16.00	\$13.50 12.00		
00314	<b>L-GLUTATHIONE (MEGA)</b> - 250 mg, 60 caps Buy 4 bottles, price each	35.95 32.36	26.96 24.27		
00795	<b>GLYCINE</b> - 1000 mg, 100 caps Buy 4 bottles, price each	12.00 10.80	9.00 8.10		
00128	<b>GLYCINE POWDER</b> - 300 grams Buy 4 bottles, price each	18.00 16.00	13.50 12.00		
01091	<b>GRAPE EXTRACT w/RESVERATROL (WHOLE)</b> - 60 veg. caps Buy 4 bottles, price each	36.00 34.00	27.00 25.50		
01411	<b>GRAPE SEED EXTRACT w/RESVERATROL &amp; PTEROSTILBENE</b> -100 mg, 60 veg. caps Buy 4 bottles, price each	36.00 34.00	27.00 25.50		
00953	<b>GREEN TEA EXTRACT (MEGA)</b> - lightly caffeinated - 100 veg. caps Buy 4 bottles, price each	28.00 26.50	21.00 19.88		
00954	<b>GREEN TEA EXTRACT (MEGA)</b> - decaffeinated - 100 veg. caps Buy 4 bottles, price each	28.00 26.50	21.00 19.88		
<b>H</b>					
01074	<b>5 HTP</b> - 100 mg, 60 caps	\$27.95	\$20.96		
00010	<b>HAIR CONDITIONER</b> - 16 oz Buy 4 bottles, price each	6.00 4.50	4.50 3.38		
00230	<b>HCA</b> - 90 caps Buy 4 bottles, price each	18.00 15.50	13.50 11.63		
00800	<b>HOMOCYSTEINE RESIST</b> - 100 caps Buy 4 bottles, price each	24.00 21.60	18.00 16.20		
00067	<b>HOODIA GORDONII</b> - 60 caps	14.00	10.50		
00627	<b>HUPERZINE A w/NATURAL VITAMIN E</b> - 50 mcg, 60 caps Buy 4 bottles, price each	27.95 24.00	20.96 18.00		
00661	<b>HYDRODERM</b> ® - 1 oz Buy 2 bottles, price each	79.95 65.33	59.96 49.00		
<b>I</b>					
^ 01060	<b>i26 HYPERIMMUNE EGG</b> - 140 grams powder	\$49.99	\$42.00		
^ 01319	<b>i26 HYPERIMMUNE EGG</b> - 135 capsules	31.99	25.59		
^ 01318	<b>i26 HYPERIMMUNE EGG CHEWABLES</b> - (vanilla) 45 tablets	31.99	25.59		
01065	<b>IDEAL BOWEL SUPPORT 299V</b> - 30 veg. caps	21.95	16.46		
00955	<b>IMMUNE PROTECT w/PARACTIN</b> ® - 30 veg. caps Buy 4 bottles, price each	29.50 26.55	22.13 19.91		
01049	<b>INNERPOWER</b> ™ - 555 grams powder	42.00	31.50		
00155	<b>INOSINE</b> - 500 mg, 60 caps Buy 4 bottles, price each	22.95 21.00	17.21 15.75		
00109	<b>INOSITOL CAPSULES</b> - 500 mg, 100 caps Buy 4 bottles, price each	14.99 13.79	11.24 10.34		
00410	<b>INOSITOL CAPSULES</b> - 1000 mg, 360 caps Buy 4 bottles, price each	48.00 43.75	36.00 32.81		
00108	<b>INOSITOL POWDER</b> - 100 grams Buy 4 bottles, price each	18.00 16.88	13.50 12.66		
01021	<b>INTACT DIGEST</b> ™ - 8 fl oz Buy 4 bottles, price each	35.00 33.00	26.25 24.75		
01292	<b>INTEGRA-LEAN</b> ® IRVINGIA - 150 mg, 60 veg. caps Buy 4 bottles, price each	28.00 24.00	21.00 18.00		
01002	<b>IODORAL</b> ® - 180 caps	50.00	37.50		
00563	<b>IRON PROTEIN PLUS</b> - 300 mg, 100 caps Buy 4 bottles, price each	24.00 22.00	18.00 16.50		
01492	<b>IRVINGIA w/PHASE 3</b> ™ - 120 veg. caps <b>CALORIE CONTROL COMPLEX (OPTIMIZED)</b> Buy 4 bottles, price each	56.00 48.00	42.00 36.00		

**SUB-TOTAL OF COLUMN 9**

No.		Retail Each	Member Each	Qty	Total
<b>J, K</b>					
00056	<b>JARRO-DOPHILUS EPS</b> ™ - 60 veg. caps	\$21.95	\$16.46		
01224	<b>K w/ADVANCED K2 COMPLEX (SUPER)</b> - 90 softgels Buy 4 bottles, price each	26.00 23.00	19.50 17.25		
01050	<b>(NKO) KRILL OIL</b> - 60 softgels	33.95	25.46		
00316	<b>KYOLIC</b> ® GARLIC FORMULA 102 - 350 mg, 200 caps Buy 4 bottles, price each	23.95 20.50	17.96 15.38		
00214	<b>KYOLIC</b> ® GARLIC FORMULA 105 - 200 caps Buy 4 bottles, price each	22.95 18.25	17.21 13.69		
00789	<b>KYOLIC</b> ® RESERVE - 600 mg, 120 caps Buy 4 bottles, price each	24.75 21.45	18.56 16.09		
<b>L</b>					
00513	<b>LACTOFERRIN (APOLACTOFERRIN) CAPS</b> - 60 caps Buy 4 bottles, price each	\$40.00 36.00	\$30.00 27.00		
00017	<b>LAVILIN UNDERARM DEODORANT</b> - 12.5 grams cream Buy 4 jars, price each	15.00 13.75	11.25 10.31		
00020	<b>LECITHIN</b> - 16 oz. granules Buy 4 jars, price each	15.00 12.50	11.25 9.38		
01538	<b>LIFE EXTENSION MIX</b> ™ - 315 veg. tablets Buy 4 bottles, price each Buy 10 bottles, price each	98.00 86.00 69.50	73.50 64.50 52.13		
01555	<b>LIFE EXTENSION MIX</b> ™ - 315 tablets Buy 4 bottles, price each Buy 10 bottles, price each	98.00 86.00 69.50	73.50 64.50 52.13		
01557	<b>LIFE EXTENSION MIX</b> ™ w/EXTRA NIACIN - 315 tablets Buy 4 bottles, price each Buy 10 bottles, price each	98.00 86.00 69.50	73.50 64.50 52.13		
01554	<b>LIFE EXTENSION MIX</b> ™ - 490 caps Buy 4 bottles, price each Buy 10 bottles, price each	110.00 98.00 85.00	82.50 73.50 63.75		
01556	<b>LIFE EXTENSION MIX</b> ™ POWDER - 14.81 oz Buy 4 bottles, price each Buy 10 bottles, price each	98.00 86.00 72.00	73.50 64.50 54.00		
01565	<b>LIFE EXTENSION MIX</b> ™ - 315 tablets w/o copper Buy 4 bottles, price each Buy 10 bottles, price each	98.00 86.00 69.50	73.50 64.50 52.13		
01567	<b>LIFE EXTENSION MIX</b> ™ w/EXTRA NIACIN 315 tablets w/o copper Buy 4 bottles, price each Buy 10 bottles, price each	98.00 86.00 69.50	73.50 64.50 52.13		
01564	<b>LIFE EXTENSION MIX</b> ™ - 490 caps w/o copper Buy 4 bottles, price each Buy 10 bottles, price each	110.00 98.00 85.00	82.50 73.50 63.75		
01566	<b>LIFE EXTENSION MIX</b> ™ POWDER - 14.81 oz w/o copper Buy 4 bottles, price each Buy 10 bottles, price each	98.00 86.00 72.00	73.50 64.50 54.00		
00263	<b>LIFE FLORA</b> ™ - 300 mg, 120 caps Buy 4 bottles, price each	20.50 18.75	15.38 14.06		
01314	<b>LIFESHIELD</b> ® IMMUNITY™ - 60 veg. caps	39.95	29.96		

**SUB-TOTAL OF COLUMN 10**

No.		Retail Each	Member Each	Qty	Total
01227	<b>LIVER FORCE</b> - 30 veg. caps	\$34.95	\$26.21		
00939	<b>5-LOXIN®</b> - 75 mg, 100 veg. caps	19.50	14.63		
	Buy 4 bottles, price each	17.25	12.94		
01013	<b>L-LYSINE</b> - 620 mg, 100 caps	9.00	6.75		
	Buy 4 bottles, price each	8.00	6.00		
00129	<b>L-LYSINE POWDER</b> - 300 grams	16.00	12.00		
	Buy 4 bottles, price each	13.75	10.31		
01470	<b>LURALEAN® CAPS SPECIAL PROPOLMANNAN PARTICLE SIZE</b> - 120 veg. caps	28.00	21.00		
	Buy 4 bottles, price each	25.00	18.75		
01017	<b>LUSTRE™</b> - 90 tablets	17.50	13.13		
	Buy 4 bottles, price each	15.50	11.63		
00455	<b>LYCOPENE EXTRACT (MEGA)</b> - 15 mg, 90 softgels	35.00	26.25		
	Buy 4 bottles, price each	30.00	22.50		
<b>M</b>					
01044	<b>MAGNESIUM CAPS</b> - 500 mg, 100 caps	\$9.50	\$7.13		
	Buy 4 bottles, price each	8.00	6.00		
00502	<b>MAGNESIUM CITRATE</b> - 160 mg, 100 caps	9.00	6.75		
	Buy 4 bottles, price each	7.50	5.63		
00704	<b>MAITAKE™ SX-FRACTION</b> - 90 veg. tablets	49.95	37.46		
00547	<b>MELATONIN</b> - 300 mcg, 100 caps	5.75	4.31		
	Buy 4 bottles, price each	5.00	3.75		
01083	<b>MELATONIN</b> - 500 mcg, 200 veg. caps	18.00	13.50		
	Buy 4 bottles, price each	16.00	12.00		
00329	<b>MELATONIN</b> - 1 mg, 60 caps	5.00	3.75		
	Buy 4 bottles, price each	4.63	3.47		
00330	<b>MELATONIN</b> - 3 mg, 60 caps	8.00	6.00		
	Buy 4 bottles, price each	6.88	5.16		
01086	<b>MELATONIN</b> - 3 mg, 60 time-release veg. caps	10.50	7.88		
	Buy 4 bottles, price each	9.38	7.04		
00331	<b>MELATONIN</b> - 10 mg, 60 caps	28.00	21.00		
	Buy 4 bottles, price each	24.00	18.00		
00332	<b>MELATONIN</b> - 3 mg, 60 lozenges	8.00	6.00		
	Buy 4 bottles, price each	6.88	5.16		
01087	<b>MELATONIN TIME RELEASE</b> - 300 mcg, 100 veg. caps	6.25	4.69		
	Buy 4 bottles, price each	5.63	4.22		
01088	<b>MELATONIN TIME RELEASE</b> - 750 mcg, 60 veg. caps	5.75	4.31		
	Buy 4 bottles, price each	5.00	3.75		
01009	<b>MEMORY UPGRADE™</b> - 600 grams powder	26.95	20.21		
01047	<b>MENOPAUSE SOLUTIONS</b> - 120 tablets	49.95	37.46		
00536	<b>METHYLCOBALAMIN</b> - 1 mg, 60 lozenges (vanilla)	9.95	7.46		
	Buy 4 bottles, price each	8.00	6.00		
00537	<b>METHYLCOBALAMIN</b> - 5 mg, 60 lozenges (vanilla)	32.00	24.00		
	Buy 4 bottles, price each	25.00	18.75		
	Buy 10 bottles, price each	23.00	17.25		
00709	<b>MIGRA-EEZE™ (BUTTERBUR)</b> - 60 softgels	29.50	22.13		
	Buy 4 bottles, price each	26.33	19.75		

**SUB-TOTAL OF COLUMN 11**

No.		Retail Each	Member Each	Qty	Total
01517	<b>MILK THISTLE (CERTIFIED EUROPEAN)</b> - 120 veg. caps	\$42.00	\$31.50		
	Buy 4 bottles, price each	38.00	28.50		
00623	<b>MINERAL FORMULA FOR MEN</b> - 100 caps	15.00	11.25		
	Buy 4 bottles, price each	12.50	9.38		
	Buy 12 bottles, price each	10.83	8.13		
00624	<b>MINERAL FORMULA FOR WOMEN</b> - 100 caps	15.00	11.25		
	Buy 4 bottles, price each	12.50	9.38		
	Buy 12 bottles, price each	10.83	8.13		
01315	<b>MIRAFORTE w/STANDARDIZED LIGNANS (SUPER)</b> - 120 caps	62.00	46.50		
	Buy 4 bottles, price each	56.00	42.00		
01569	<b>MITOCHONDRIAL BASICS w/BIOPOQ™</b> - 30 caps	52.00	39.00		
	Buy 4 bottles, price each	46.00	34.50		
01568	<b>MITOCHONDRIAL ENERGY OPTIMIZER w/BIOPOQ™</b> - 120 caps	94.00	70.50		
	Buy 4 bottles, price each	84.00	63.00		
00803	<b>MIST ORAL III w/COQ10</b> - 2 fl oz	28.00	21.00		
	Buy 4 bottles, price each	25.33	19.00		
00065	<b>MK-7</b> - 90 mcg, 60 softgels	28.00	21.00		
	Buy 4 bottles, price each	25.00	18.75		
01279	<b>MOUTHWASH W/POMEGRANATE</b> - 16 oz	18.50	13.88		
	Buy 4 bottles, price each	17.00	12.75		
00451	<b>MSM (METHYLSULFONYLMETHANE)</b> - 1000 mg, 100 caps	14.00	10.50		
	Buy 4 bottles, price each	11.95	8.96		
<b>N</b>					
00215	<b>N-ACETYL CYSTEINE</b> - 600 mg, 60 caps	\$14.00	\$10.50		
	Buy 4 bottles, price each	13.50	10.13		
00168	<b>NAPCA W/ALOE VERA</b> - 8 fl oz	10.00	7.50		
	Buy 4 bottles, price each	9.15	6.86		
00066	<b>NATTOKINASE</b> - 60 softgels	24.98	18.74		
00891	<b>NATURAL APPETITE CONTROL</b> - 90 softgels	28.00	21.00		
	Buy 4 bottles, price each	25.20	18.90		
00984	<b>NATURAL BP MANAGEMENT</b> - 60 tablets	42.00	31.50		
	Buy 4 bottles, price each	37.80	28.35		
00913	<b>NATURAL ESOPHAGUARD</b> - 10 softgels	19.95	14.96		
	Buy 2 boxes, price each	19.00	14.25		
00712	<b>NATURAL ESTROGEN w/POMEGRANATE EXTRACT</b> - 60 caplets	38.00	28.50		
	Buy 4 bottles, price each	33.00	24.75		
01221	<b>NATURAL FEMALE SUPPORT</b> - 30 veg. caps	28.00	21.00		
	Buy 4 bottles, price each	24.00	18.00		
01471	<b>NATURAL GLUCOSE ABSORPTION CONTROL</b> - 60 veg. caps	39.00	29.25		
	Buy 4 bottles, price each	36.00	27.00		
00698	<b>NATURAL RELIEF 1222™</b> - 2 oz	28.00	21.00		
	Buy 4 tubes, price each	25.00	18.75		
01084	<b>NATURAL SLEEP®</b> - 3 mg, 60 veg. caps	12.99	9.74		
	Buy 4 bottles, price each	10.00	7.50		
01507	<b>NATURAL SLEEP® (ENHANCED) W/ MELATONIN</b> - 30 caps	22.00	16.50		
	Buy 4 bottles, price each	20.00	15.00		
01511	<b>NATURAL SLEEP® (ENHANCED) W/O MELATONIN</b> - 30 caps	20.00	15.00		
	Buy 4 bottles, price each	18.00	13.50		

**SUB-TOTAL OF COLUMN 12**

# Buyers Club Order Form

To order call: 1.954.766.8433 or 1.800.544.4440

No.		Retail Each	Member Each	Qty	Total
<b>N</b> CONTINUED					
01085	<b>NATURAL SLEEP MELATONIN®</b> - 5 mg, 60 veg. caps	\$18.00	\$13.50		
	Buy 4 bottles, price each	16.00	12.00		
00987	<b>NATURAL STRESS RELIEF</b> - 30 veg. caps	28.00	21.00		
	Buy 4 bottles, price each	24.00	18.00		
01076	<b>NEW FACE SOLUTION</b> - 1.7 oz bottle	54.00	40.50		
	Buy 4 bottles, price each	49.00	36.75		
00373	<b>NO-FLUSH NIACIN</b> - 800 mg, 100 caps	19.00	14.25		
	Buy 4 bottles, price each	17.00	12.75		
01035	<b>NUTRIM</b> - 170 grams powder	25.95	19.46		
00523	<b>N-ZIMES™</b> - 270 caps	23.90	17.93		
	Buy 4 bottles, price each	22.00	16.50		
<b>O</b>					
00104	<b>OCTACOSANOL</b> - 8000 mcg, 60 caps	\$17.99	\$13.49		
	Buy 4 bottles, price each	15.74	11.81		
01483	<b>OMEGA 3 EPA/DHA w/SESAME LIGNANS &amp; OLIVE FRUIT EXTRACT (SUPER)</b> - 60 softgels	18.00	13.50		
	Buy 4 bottles, price each	16.00	12.00		
01482	<b>OMEGA 3 EPA/DHA w/SESAME LIGNANS &amp; OLIVE FRUIT EXTRACT (SUPER)</b> - 120 softgels	32.00	24.00		
	Buy 4 bottles, price each	28.00	21.00		
	Buy 10 bottles, price each	24.90	18.68		
01484	<b>OMEGA 3 EPA/DHA w/SESAME LIGNANS &amp; OLIVE FRUIT EXTRACT (SUPER)</b> - 120 enteric coated softgels	34.00	25.50		
	Buy 4 bottles, price each	31.00	23.25		
	Buy 10 bottles, price each	28.00	21.00		
01501	<b>ONE-PER-DAY</b> - 60 vegetarian tablets	19.95	14.96		
	Buy 4 bottles, price each	18.00	13.50		
00717	<b>ONLY TRACE MINERALS</b> - 90 caps	15.00	11.25		
	Buy 4 bottles, price each	12.50	9.38		
00915	<b>OPTIZINC®</b> - 30 mg, 90 veg. caps	5.95	4.46		
	Buy 4 bottles, price each	5.00	3.75		
01070	<b>ORGANIC TOTAL BODY CLEANSE™</b> - 14-day supply	34.99	26.24		
00043	<b>L-ORNITHINE</b> - 500 mg, 100 caps	24.95	18.71		
	Buy 4 bottles, price each	20.00	15.00		
<b>P</b>					
00107	<b>PABA CAPS</b> - 500 mg, 100 caps	\$13.99	\$10.49		
	Buy 4 bottles, price each	12.33	9.25		
00073	<b>PANCREATIN</b> - 500 mg, 50 caps	11.99	8.99		
	Buy 4 bottles, price each	10.99	8.24		
00923	<b>PEAK ATP® WITH GLYCO-CARN®</b> - 60 tablets	59.00	44.25		
	Buy 4 bottles, price each	56.00	42.00		
00342	<b>PECTA SOL-C® MODIFIED CITRUS PECTIN</b> - 454 grams powder	99.95	74.96		
	Buy 4 jars, price each	95.70	71.78		
01080	<b>PECTA SOL-C® MODIFIED CITRUS PECTIN</b> - 270 veg. caps	69.95	52.46		
00673	<b>PGX™ SOLUBLE FIBER BLEND (WELLBETX®)</b> -180 caps	34.95	26.21		
00865	<b>PHARMAGABA™</b> - 60 chewable tablets	29.95	22.46		
	Buy 4 bottles, price each	27.00	20.25		
01320	<b>PHOSCHOL®</b> - 900 mg, 100 softgels	69.45	52.09		
00368	<b>PHOSPHATIDYLSERINE CAPS</b> - 100 mg, 100 caps	54.00	40.50		
	Buy 4 bottles, price each	48.00	36.00		
00614	<b>PILL CUTTER/GRINDER</b>	11.95	8.96		
00561	<b>POLICOSANOL</b> - 10 mg, 60 tablets	24.00	18.00		
	Buy 6 bottles, price each	18.00	13.50		

**SUB-TOTAL OF COLUMN 13**

No.		Retail Each	Member Each	Qty	Total
01423	<b>POMEGRANATE™ (FULL-SPECTRUM)</b> - 30 softgels	\$24.00	\$18.00		
	Buy 4 bottles, price each	21.00	15.75		
00956	<b>POMEGRANATE EXTRACT</b> - 30 veg. caps	19.50	14.63		
	Buy 4 bottles, price each	17.55	13.16		
00957	<b>POMEGRANATE JUICE CONCENTRATE</b> - 16 oz. liquid	25.95	19.46		
	Buy 4 bottles, price each	24.00	18.00		
00577	<b>POTASSIUM IODIDE</b> - 1 box, 14 tablets	6.95	5.21		
	Buy 4 boxes, price each	5.25	3.94		
01500	<b>PQQ CAPS W/BIO-PQQ™</b> - 10 mg, 30 veg. caps	24.00	18.00		
	Buy 4 bottles, price each	22.00	16.50		
00302	<b>PREGNENOLONE</b> - 50 mg, 100 caps	24.00	18.00		
	Buy 4 bottles, price each	19.00	14.25		
00700	<b>PREGNENOLONE</b> - 100 mg, 100 caps	26.00	19.50		
	Buy 4 bottles, price each	22.50	16.88		
*01373	<b>PRELOX® NATURAL SEX FOR MEN®</b> - 60 tablets	50.00	37.50		
	Buy 4 bottles, price each	45.00	33.75		
00571	<b>PRIMAL DEFENSE™</b> - 90 caplets	49.95	37.46		
	Buy 4 bottles, price each	48.50	36.38		
01019	<b>PRIMAL DEFENSE™</b> - 180 caplets	78.95	59.21		
00525	<b>PROBOOST THYMIC PROTEIN A™</b> - 4 mcg, 30 packets	72.00	54.00		
	Buy 4 boxes, price each	70.00	52.50		
00869	<b>PRO FEM CREAM</b> - 2 fl oz (Progesterone Cream)	32.00	24.00		
	Buy 4 bottles, price each	29.00	21.75		
01020	<b>PROGREENS®</b> - 15 stick pack	22.50	16.88		
01072	<b>PRO M INTERNAL DEODORIZER</b> - 500 mg, 100 veg. caps	28.00	21.00		
	Buy 4 bottles, price each	25.00	18.75		
**01495	<b>PROSTATE FORMULA W/ 5-LOXIN® STAND. LIGNANS (ULTRA NAT)</b> -60 softgels	38.00	28.50		
	Buy 4 bottles, price each	35.00	26.25		
	Buy 12 bottles, price each	32.00	24.00		
01092	<b>PROTEIN - VANILLA</b> - (Enhanced Life Extension) -1000 grams powder	38.00	28.50		
	Buy 4 bottles, price each	36.00	27.00		
01093	<b>PROTEIN - CHOCOLATE</b> - (Enhanced Life Extension) -1000 grams powder	38.00	28.50		
	Buy 4 bottles, price each	36.00	27.00		
01094	<b>PROTEIN - NATURAL</b> - (Enhanced Life Extension) -1000 grams powder	38.00	28.50		
	Buy 4 bottles, price each	36.00	27.00		
01095	<b>PROTEIN - BERRY</b> - (Enhanced Life Extension) -1000 grams powder	38.00	28.50		
	Buy 4 bottles, price each	36.00	27.00		
00290	<b>PROTEIN - VANILLA</b> - (Designer Whey) 2 lbs powder	42.49	31.87		
	Buy 4 bottles, price each	38.50	28.88		
00282	<b>PROTEIN - CHOCOLATE</b> - (Designer Whey) 2 lbs powder	42.49	31.87		
	Buy 4 bottles, price each	38.50	28.88		
00283	<b>PROTEIN - NATURAL</b> - (Designer Whey) 2 lbs powder	42.49	31.87		
	Buy 4 bottles, price each	38.50	28.88		
01508	<b>PTEROPURE™</b> - 50 mg Pterostilbene 60 veg. caps	32.00	24.00		
	Buy 4 bottles, price each	30.00	22.50		
01056	<b>PURE-GAR®</b> - 200 caps	24.95	18.71		
	Buy 4 bottles, price each	21.00	15.75		
01075	<b>PURE PLANT PROTEIN</b> - Natural Vanilla 450 grams powder	36.00	27.00		
	Buy 4 jars, price each	33.00	24.75		
01209	<b>PUMPKIN SEED EXTRACT (WATER-SOLUBLE)</b> - 60 veg. caps	20.00	15.00		
	Buy 4 bottles, price each	18.00	13.50		
01210	<b>PUMPKIN SEED EXT w/SOY ISOFLAVONES (WATER-SOLUBLE)</b> - 60 veg. caps	22.00	16.50		
	Buy 4 bottles, price each	20.00	15.00		
01031	<b>PYCNOGENOL®</b> - 60 veg. caps	86.95	65.21		

**SUB-TOTAL OF COLUMN 14**

No.		Retail Each	Member Each	Qty	Total
<b>P CONTINUED</b>					
01217	<b>PYRIDOXAL 5'-PHOSPHATE</b> - 100 mg, 60 veg. caps Buy 4 bottles, price each	\$22.00 19.80	\$16.50 14.85		
<b>Q, R</b>					
01309	<b>QUERCETIN (OPTIMIZED)</b> - 250 mg, 60 veg. caps Buy 4 bottles, price each	\$18.00 17.00	\$13.50 12.75		
01030	<b>RED YEAST RICE</b> (Bluebonnet)- 600 mg, 60 veg. caps	16.95	12.71		
00979	<b>RED YEAST RICE</b> (Nature's Plus)- 600 mg, 60 veg. caps	23.95	17.96		
00060	<b>RED YEAST RICE EXTENDED RELEASE</b> - 30 veg. tablets	21.50	16.13		
00605	<b>REGIMINT</b> - 60 enteric-coated caps Buy 4 bottles, price each	19.95 18.67	14.96 14.00		
00448	<b>REJUVENEX® BODY LOTION</b> - 6 oz Buy 4 tubes, price each Buy 8 tubes, price each	24.00 19.80 17.00	18.00 14.85 12.75		
00918	<b>REJUVENEX® FACTOR</b> - 1.7 oz airless pump Buy 2 bottles, price each Buy 4 bottles, price each Buy 8 bottles, price each	65.00 60.00 55.00 49.91	48.75 45.00 41.25 37.43		
01220	<b>REJUVENEX® (ULTRA)</b> - 2 oz Buy 2 jars, price each Buy 4 jars, price each Buy 8 jars, price each	52.00 48.00 44.00 39.93	39.00 36.00 33.00 29.95		
00676	<b>REJUVENIGHT (ULTRA)</b> - 2 oz Buy 4 jars, price each	39.95 36.00	29.96 27.00		
00706	<b>REJUVENIGHT w/PROGESTERONE (ULTRA)</b> - 2 oz Buy 4 jars, price each	42.00 38.00	31.50 28.50		
01413	<b>RESVERATROL W/PTEROSTILBENE</b> - 20 mg, 60 veg. caps Buy 4 bottles, price each	24.00 22.00	18.00 16.50		
01410	<b>RESVERATROL W/PTEROSTILBENE</b> - 100 mg, 60 veg. caps Buy 4 bottles, price each	36.00 32.00	27.00 24.00		
01430	<b>RESVERATROL w/SYNERGISTIC GRAPE-BERRY ACTIVES (OPTIMIZED)</b> - 250 mg, 60 veg. caps Buy 4 bottles, price each	46.00 41.33	34.50 31.00		
00889	<b>RHODIOLA EXTRACT</b> - 250 mg, 60 veg. caps Buy 4 bottles, price each	11.75 10.58	8.81 7.94		
00972	<b>(D) RIBOSE POWDER</b> - 150 grams Buy 4 jars, price each	27.50 24.75	20.63 18.56		
01473	<b>(D) RIBOSE TABLETS</b> - 100 veg. tabs Buy 4 bottles, price each	32.00 28.00	24.00 21.00		
01208	<b>R-LIPOIC ACID (SUPER)</b> - 300 mg, 60 veg. caps Buy 4 bottles, price each	49.00 45.00	36.75 33.75		
00070	<b>RNA CAPSULES</b> - 500 mg, 100 caps Buy 4 bottles, price each	17.95 16.16	13.46 12.12		
00917	<b>ROSMARINIC ACID EXTRACT</b> - 60 veg. caps Buy 4 bottles, price each	59.00 53.00	44.25 39.75		
<b>S</b>					
01082	<b>SACCHAROMYCES BOULARDII + MOS</b> - 30 veg. caps	\$9.95	\$7.46		
01067	<b>SACCHAROMYCES BOULARDII + MOS</b> - 90 veg. caps	21.95	16.46		
01432	<b>SAFFRON w/SATIREAL (OPTIMIZED)</b> - 60 veg. caps Buy 4 bottles, price each	36.00 32.00	27.00 24.00		
*00573	<b>SAMBU® GUARD</b> - 175 ml	17.49	13.99		
00358	<b>SAME (S-ADENOSYL-METHIONINE)</b> - 200 mg, 20 enteric coated tablets Buy 8 boxes, price each	17.00 15.00	12.75 11.25		

**SUB-TOTAL OF COLUMN 15**

No.		Retail Each	Member Each	Qty	Total
00453	<b>SAME (S-ADENOSYL-METHIONINE)</b> - 200 mg, 50 enteric coated tablets Buy 4 bottles, price each	\$40.00 35.00	\$30.00 26.25		
00557	<b>SAME (S-ADENOSYL-METHIONINE)</b> - 400 mg, 20 enteric coated tablets Buy 6 boxes, price each	32.00 25.00	24.00 18.75		
01055	<b>SAME (S-ADENOSYL-METHIONINE)</b> - 400 mg, 50 enteric coated tablets Buy 4 bottles, price each	72.00 66.00	54.00 49.50		
01043	<b>SEA-IODINE™</b> - 1000 mcg, 60 veg. caps Buy 4 bottles, price each	8.00 7.20	6.00 5.40		
00046	<b>SELENIUM</b> - 2 oz dropper bottle Buy 4 bottles, price each	9.95 9.45	7.46 7.09		
00567	<b>SE-METHYL L-SELENOCYSTEINE</b> - 200 mcg, 100 caps Buy 4 bottles, price each	12.00 11.00	9.00 8.25		
00318	<b>SERRAFLAZYME</b> - 100 tablets Buy 4 bottles, price each	18.00 16.00	13.50 12.00		
00011	<b>SHAMPOO</b> - 16 fl oz Buy 4 bottles, price each	6.00 4.75	4.50 3.56		
00284	<b>SHARK LIVER OIL (NORWEGIAN)</b> - 1000 mg, 30 softgels Buy 4 bottles, price each	18.00 16.00	13.50 12.00		
00184	<b>SILYMARIN</b> - 100 mg, 50 caps Buy 4 bottles, price each	9.25 8.25	6.94 6.19		
01502	<b>SKIN RESTORING CERAMIDES w/LIPOWHEAT™</b> - 30 liquid caps Buy 4 bottles, price each	25.00 23.00	18.75 17.25		
00961	<b>SODZYME® w/GLISODIN® AND WOLFBERRY</b> - 90 veg. caps Buy 4 bottles, price each	28.00 24.00	21.00 18.00		
00657	<b>SOLARSHIELD SUNGLASSES</b> - 1 pair smoke color Buy 2 pairs, price each	12.99 11.50	9.74 8.63		
01097	<b>SOY EXTRACT (ULTRA)</b> - 150 veg. caps Buy 4 bottles, price each	87.00 78.00	65.25 58.50		
00286	<b>SOY PROTEIN CONCENTRATE</b> - 16 oz of powder Buy 4 jars, price each	12.00 10.63	9.00 7.97		
01099	<b>STABILIMUM® 200</b> - 30 caps	30.00	22.50		
00432	<b>STEVIA EXTRACT</b> - 100 packets, 1 gram each Buy 4 boxes, price each	9.95 9.00	7.46 6.75		
00351	<b>ST. JOHN'S WORT EXTRACT</b> - 300 mg, 60 caps Buy 4 bottles, price each	10.98 10.00	8.24 7.50		
00327	<b>ST. JOHN'S WORT EXTRACT (PLANETARY)</b> - 600 mg, 60 tablets Buy 4 bottles, price each	16.75 13.85	12.56 10.39		
01476	<b>STRONTIUM</b> - 750 mg, 90 veg. caps Buy 4 bottles, price each	20.00 18.00	15.00 13.50		
00971	<b>SUN PROTECTION SPRAY W/BETA GLUCAN</b> - SPF30 - 6 oz Buy 4 bottles, price each	14.95 13.50	11.21 10.13		
00747	<b>SUNGLASSES (OVERXCAST POLARIZED)</b> - gray color, large Buy 2 pairs, price each	27.00 21.00	20.25 15.75		
00748	<b>SUNGLASSES (OVERXCAST POLARIZED)</b> - gray color, medium Buy 2 pairs, price each	27.00 21.00	20.25 15.75		
00758	<b>SUPER ABSORBABLE SOY ISOFLAVONES</b> - 60 caps Buy 4 bottles, price each	28.00 25.00	21.00 18.75		
01408	<b>SUPER SAW PALMETTO/NETTLE ROOT W/BETA-SITOSTEROL</b> 60 softgels Buy 4 bottles, price each Buy 12 bottles, price each	28.00 26.00 24.00	21.00 19.50 18.00		

**SUB-TOTAL OF COLUMN 16**

# Buyers Club Order Form

To order call: 1.954.766.8433 or 1.800.544.4440

No.		Retail Each	Member Each	Qty	Total
<b>S CONTINUED</b>					
01407	<b>SUPER SAW PALMETTO W/BETA-SITOSTEROL</b> - 30 softgels	\$15.00	\$11.25		
	Buy 12 bottles, price each	12.00	9.00		
00578	<b>SUPER SELENIUM COMPLEX</b> - 200 mcg, 100 caps	12.00	9.00		
	Buy 4 bottles, price each	10.00	7.50		
	Buy 12 bottles, price each	9.00	6.75		
00674	<b>SYTRINOL™</b> - 60 softgels	32.00	24.00		
	Buy 4 bottles, price each	28.00	21.00		
<b>T</b>					
<b>TAL•SHI™ COSMETICS</b> • For information please call 1-800-544-4440 or visit www.lifeextension.com					
01062	<b>TART CHERRY</b> - 600 mg, 60 caps	\$18.95	\$14.21		
00199	<b>TAURINE</b> - 1000 mg, 50 caps	8.95	6.71		
	Buy 4 bottles, price each	8.00	6.00		
00133	<b>TAURINE POWDER</b> - 300 grams	20.00	15.00		
	Buy 4 bottles, price each	16.88	12.66		
01304	<b>THEAFLAVIN STANDARDIZED EXTRACT</b> - 30 veg. caps	18.00	13.50		
	Buy 4 bottles, price each	16.00	12.00		
00555	<b>(L) THEANINE</b> - 100 mg, 60 caps	24.00	18.00		
	Buy 4 bottles, price each	20.50	15.38		
01038	<b>THERALAC</b> - 30 caps	44.95	33.71		
00224	<b>THYMIC IMMUNE FACTORS</b> - 100 caps	18.00	13.50		
	Buy 4 bottles, price each	14.00	10.50		
00668	<b>THYROID FORMULA™ (METABOLIC ADVANTAGE)</b> - 100 caps	21.95	16.46		
00349	<b>TMG POWDER</b> - 50 grams	14.00	10.50		
	Buy 4 bottles, price each	11.00	8.25		
00359	<b>TMG</b> - 500 mg, 180 tablets	18.00	13.50		
	Buy 4 bottles, price each	15.50	11.63		
00366	<b>TOCOTRIENOLS</b> - (Rice) 50 mg, 60 softgel caps	39.95	29.96		
	Buy 4 bottles, price each	36.00	27.00		
00781	<b>TOCOTRIENOLS WITH SESAME LIGNANS</b> - 60 softgels	38.00	28.50		
	Buy 4 bottles, price each	36.00	27.00		
01400	<b>TOCOTRIENOLS (SUPER-ABSORBABLE)</b> - 60 softgels	30.00	22.50		
	Buy 4 bottles, price each	28.00	21.00		
01278	<b>TOOTHPASTE</b> - 4 oz (Mint)	9.50	7.13		
	Buy 4 tubes, price each	8.67	6.50		
01274	<b>TOTAL SUN PROTECTION CREAM W/BETA GLUCAN</b> - 4 oz	28.00	21.00		
	Buy 4 tubes, price each	25.20	18.90		
01468	<b>TRIPLE ACTION CRUCIFEROUS VEGETABLE EXTRACT</b> - 60 veg. caps	24.00	18.00		
	Buy 4 bottles, price each	22.00	16.50		
01469	<b>TRIPLE ACTION CRUCIFEROUS VEGETABLE EXTRACT W/RESVERATROL</b> -60 veg. caps	32.00	24.00		
	Buy 4 bottles, price each	29.60	22.20		
01046	<b>TRIPLE ACTION UNDER EYE REJUVENATOR</b> - 0.5 oz pump	24.00	18.00		
	Buy 4 boxes, price each	22.00	16.50		
00866	<b>TRYPTOPURE® L-TRYPTOPHAN</b> - 500 mg, 90 veg. caps	38.00	28.50		
	Buy 4 bottles, price each	34.00	25.50		
01202	<b>TRYPTOPURE® PLUS (OPTIMIZED)</b> - 90 veg. caps	40.00	30.00		
	Buy 4 bottles, price each	36.00	27.00		
01516	<b>TWO-PER-DAY</b> - 60 veg. tablets	9.95	7.46		
	Buy 4 bottles, price each	9.00	6.75		
01515	<b>TWO-PER-DAY</b> - 120 veg. tablets	18.95	14.21		
	Buy 4 bottles, price each	17.00	12.75		
00326	<b>L-TYROSINE</b> - 500 mg, 100 tablets	12.50	9.38		
	Buy 4 bottles, price each	11.42	8.57		

**SUB-TOTAL OF COLUMN 17**

No.		Retail Each	Member Each	Qty	Total
<b>U</b>					
* 00310	<b>UDO'S OIL 3-6-9 BLEND</b> - 17 fl oz	\$27.49	\$21.99		
* 00311	<b>UDO'S 3-6-9 OIL BLEND</b> - 180 caps	33.79	27.03		
* 00322	<b>UDO'S CHOICE® WHOLESOME FAST FOOD</b> - 16 oz bottle	27.49	21.99		
01061	<b>ULTIMATE FLORA ADVANCED IMMUNITY PROBIOTICS</b> - 30 caps	29.99	22.49		
<b>V</b>					
00213	<b>VANADYL SULFATE</b> - 7.5 mg, 100 tablets	\$15.00	\$11.25		
	Buy 4 bottles, price each	12.50	9.38		
00252	<b>VELVET DEER ANTLER</b> - 250 mg, 30 caps	36.00	27.00		
	Buy 4 bottles, price each	34.00	25.50		
00408	<b>VENOTONE</b> - 60 caps	18.95	14.21		
	Buy 4 bottles, price each	16.00	12.00		
01327	<b>VINPOCETINE</b> - 10 mg, 100 tablets	18.00	13.50		
	Buy 4 bottles, price each	14.00	10.50		
01033	<b>VISION OPTIMIZER</b> - 90 caps	29.95	22.46		
01098	<b>VITAL GREENS MIX</b> - 319.5 grams powder	48.00	36.00		
	Buy 4 jars, price each	44.00	33.00		
01219	<b>VITAMIN A NUTRISORB</b> - 0.6 fl oz	27.00	20.25		
00091	<b>VITAMIN B1 CAPS</b> - 500 mg, 100 caps	16.99	12.74		
	Buy 4 bottles, price each	15.17	11.38		
00093	<b>VITAMIN B2 CAPS</b> - 100 mg, 100 caps	12.99	9.74		
	Buy 4 bottles, price each	11.88	8.91		
00096	<b>VITAMIN B3 NIACIN</b> - 1000 mg, 100 caps	12.75	9.56		
	Buy 4 bottles, price each	12.00	9.00		
00372	<b>VITAMIN B3 NIACIN</b> - 500 mg, 100 caps	7.65	5.74		
	Buy 4 bottles, price each	6.65	4.99		
00098	<b>VITAMIN B5</b> - 500 mg, 100 caps (Pantothenic Acid)	10.50	7.88		
	Buy 4 bottles, price each	9.38	7.04		
00556	<b>VITAMIN B6</b> - 250 mg, 100 caps	12.50	9.38		
	Buy 4 bottles, price each	11.00	8.25		
00361	<b>VITAMIN B12</b> - 500 mcg, 100 lozenges	8.75	6.56		
	Buy 4 bottles, price each	7.25	5.44		
00927	<b>VITAMIN C WITH DIHYDROQUERCETIN</b> - 1000 mg, 250 tablets	25.50	19.13		
	Buy 4 bottles, price each	23.25	17.44		
00084	<b>VITAMIN C (BUFFERED) POWDER</b> - 454.6 grams	23.95	17.96		
	Buy 4 bottles, price each	22.00	16.50		
00864	<b>VITAMIN D3</b> - 2000 IU, 1 fl oz	28.00	21.00		
	Buy 4 bottles, price each	25.00	18.75		
00251	<b>VITAMIN D3</b> - 1000 IU, 250 caps	12.50	9.38		
	Buy 4 bottles, price each	11.25	8.44		
00713	<b>VITAMIN D3</b> - 5000 IU, 60 caps	11.00	8.25		
	Buy 4 bottles, price each	9.90	7.43		
01418	<b>VITAMIN D3</b> - 7000 IU, 60 caps	14.00	10.50		
	Buy 4 bottles, price each	12.60	9.45		
01372	<b>VITAMIN D3 w/SEA-IODINE™</b> - 5000 IU, 60 veg. caps	14.00	10.50		
	Buy 4 bottles, price each	12.50	9.38		
01472	<b>VITAMINS D AND K w/SEA-IODINE™</b> - 60 veg. caps	24.00	18.00		
	Buy 4 bottles, price each	22.00	16.50		
00063	<b>VITAMIN E (PURE NATURAL)</b> - 400 IU, 100 caps	18.75	14.06		
	Buy 4 bottles, price each	17.25	12.94		
	Buy 10 bottles, price each	15.00	11.25		

**SUB-TOTAL OF COLUMN 18**

To order online visit: [www.lifeextension.com](http://www.lifeextension.com)

No.		Retail Each	Member Each	Qty	Total
01225	<b>VITAMIN K2 (LOW-DOSE)</b> - 45 mcg, 90 softgels	\$18.00	\$13.50		
	Buy 4 bottles, price each	16.00	12.00		
<b>Z</b>					
01585	<b>ZEAXANTHIN W/LUTEIN &amp; MESO-ZEAXANTHIN AND C3G (SUPER)</b> - 60 softgels	\$22.00	\$16.50		
	Buy 4 bottles, price each	19.80	14.85		
01586	<b>ZEAXANTHIN W/LUTEIN &amp; MESO-ZEAXANTHIN PLUS ASTAXANTHIN AND C3G (SUPER)</b> - 60 softgels	42.00	31.50		
	Buy 4 bottles, price each	38.00	28.50		
00061	<b>ZINC LOZENGES</b> - 75 lozenges	9.50	7.13		
	Buy 4 bottles, price each	6.75	5.06		
01051	<b>ZYFLAMEND</b> - 120 softgels	60.95	45.71		
01029	<b>ZYFLAMEND EASYCAPS</b> - 180 softgels	31.95	23.96		

**SUB-TOTAL OF COLUMN 19**

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

\*\*Not for sale to wholesalers or retail stores.

\*\*\*Not eligible for member discount or member renewal product credit.

†Due to license restrictions, this product is not for sale to wholesalers outside of the USA or Canada.

††Can only be sold in the USA.

†††Member pricing not valid on this item.

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

^ These products are not 25% off retail price. These products are not for sale to wholesalers or retail stores.

^^Can only be sold in USA and Canada.

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SUB-TOTAL COLUMN 14	
SUB-TOTAL COLUMN 15	
SUB-TOTAL COLUMN 16	
SUB-TOTAL COLUMN 17	
SUB-TOTAL COLUMN 18	
SUB-TOTAL COLUMN 19	

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C.O.D.s (Add \$7 for C.O.D. orders)	
Shipping <small>UPS OVERNIGHT add \$16, UPS 2nd DAY AIR add \$7. For Puerto Rico, US Virgin Islands, Alaska &amp; Hawaii, add \$7. CANADA UPS EXPRESS Flat rate \$17.50, UK Flat rate \$25 USD. ALL OTHER INTERNATIONAL AIR WILL BE ADDED.</small>	
<b>GRAND TOTAL</b> (Must be in U.S. dollars)	

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EXP. DATE \_\_\_\_\_

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33829	<b>THE IMMORTALITY EDGE</b> • by Michael Fossel, MD, PhD, Greta Blackburn, David Woynarowski, MD	2011	\$25.95	\$18.17		
33827	<b>FOREVER YOUNG</b> • by Nicholas Perricone, MD	2010	\$26.00	\$18.20		
33825	<b>THE EMPOWERED PATIENT</b> • by Elizabeth Cohen	2010	\$15.00	\$10.50		
33824	<b>VITAMIN D SOLUTION</b> • by Michael F. Holick, PhD, MD	2010	\$25.95	\$18.17		
33822	<b>BREAKTHROUGH: EIGHT STEPS TO WELLNESS</b> • by Suzanne Somers (paperback)	2010	\$15.00	\$10.50		
33823	<b>WEIGHT LOSS GUIDE</b> • by Steven V. Joyal, MD and William Faloon (hardcover)	2010	\$29.95	\$8.99		
33820	<b>YOUR BLOOD DOESN'T LIE!</b> • by Sergey Dzugas, MD, PhD	2010	\$24.95	\$17.47		
33819	<b>BRAIN SURGEON</b> • by Keith Black, MD	2010	\$24.99	\$18.74		
33816	<b>FDA: FAILURE, DECEPTION, ABUSE</b> • by Life Extension Foundation	2010	\$20.00	\$15.00		
33818	<b>STAY YOUNG &amp; SEXY WITH BIO-IDENTICAL HORMONE REPLACEMENT</b> • by Jonathan Wright, MD	2010	\$19.95	\$14.96		
33815	<b>KNOCKOUT</b> • by Suzanne Somers	2009	\$25.99	\$17.00		
33814	<b>CHEATING DEATH</b> • by Sanjay Gupta, MD	2009	\$24.99	\$17.49		
33813	<b>TIMESHIP</b> • by Stephen Valentine	2009	\$45.00	\$33.75		
33812	<b>LIFE OVER CANCER</b> • by Keith Block, MD (hardcover)	2009	\$25.00	\$17.50		
33811	<b>THE GREAT AMERICAN HEART HOAX</b> • by Michael Ozner, MD, FACC, FAHA	2009	\$24.95	\$17.47		
33810	<b>THE ULTRAMIND SOLUTION</b> • by Mark Hyman, MD	2009	\$27.50	\$19.25		
33809	<b>TESTOSTERONE FOR LIFE</b> • by Abraham Morgentaler, MD	2008	\$16.95	\$11.87		
33808	<b>BREAKTHROUGH: EIGHT STEPS TO WELLNESS</b> • by Suzanne Somers	2008	\$25.95	\$18.17		
33599	<b>YOUNGER YOU</b> • by Eric Braverman, MD	—	\$24.95	\$15.75		
33598	<b>AGELESS</b> • by Suzanne Somers	2006	\$25.00	\$17.50		
33666	<b>ULTRAMETABOLISM: THE SIMPLE PLAN FOR AUTOMATIC WEIGHT LOSS</b> • by Mark Hyman, MD	2006	\$25.00	\$15.35		
33422	<b>BRAIN LONGEVITY</b> • by Dharma Singh Khalsa, MD, with Cameron Slauth	1997	\$14.95	\$11.21		
33677	<b>DANGEROUS DOSES</b> • by Katherine Eban	2005	\$25.00	\$16.25		
33600	<b>DISEASE PREVENTION AND TREATMENT, EXPANDED FOURTH EDITION</b> (hardcover)	2003	\$49.95	\$37.46		
	Price per book when 4 books purchased	—	\$44.00	\$33.00		
33594	<b>THE EDGE EFFECT</b> • by Eric Braverman, MD (paperback)	2004	\$12.95	\$9.71		
33700	<b>ENDING AGING</b> • by Aubrey DeGrey with Michael Rae	2007	\$28.94	\$17.75		
33488	<b>FEMALE AND FORGETFUL</b> • by Elisa Lottor, PhD, ND, and Nancy P Bruning	2002	\$18.99	\$14.24		
33388	<b>THE FIRST IMMORTAL</b> • by James L. Halperin	1998	\$6.99	\$6.00		
33696	<b>LIFE EXTENSION REVOLUTION</b> • by Philip Lee Miller, MD (paperback)	—	\$16.00	\$12.00		
33387	<b>MAXIMIZE YOUR VITALITY &amp; POTENCY</b> • by Jonathan Wright, MD	1999	\$14.95	\$11.00		
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# Don't suffer the harsh side effects of antibiotics.

# Take Theralac<sup>®</sup>.

## ANTIBIOTICS AND THERALAC WORK HAND IN HAND.

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

One particular adverse bacteria, *Clostridium difficile*, or *C. diff.*, is known to be resistant to antibiotics and can cause severe diarrhea. The best way to stop the havoc *C. diff.* wreaks is to **overwhelm it with Theralac.**

## THERALAC IS CLINICALLY PROVEN TO WORK.

Theralac has been proven in a



clinical study to **maintain normal intestinal flora while people were on antibiotics.**

In a double-blind, placebo-controlled study subjects took the equivalent of two Theralac capsules daily for two weeks while on the powerful antibiotic Augmentin<sup>®</sup>. The results were amazing! **The Theralac group saw no disruption of intestinal**

**flora** while the non-Theralac<sup>®</sup> group experienced substantial disruption.

Theralac assists with nutrient absorption and **helps regulate peristaltic action.** Theralac helps maintain estrogen, cholesterol and glycemic levels in those already within normal range.

## LEADING DOCTORS RECOMMEND THERALAC.

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

help patients suffering from severe antibiotic associated diarrhea.

So to ensure digestive health while taking antibiotics, order Theralac today by calling **800-544-4440** or visit **LifeExtension.com.**

Then take your antibiotics and avoid unintended consequences.



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# GingerForce®

## A Full-Spectrum Cardio Tonic with Superlative Antioxidant Effects

### Ginger Naturally Promotes a Healthy Inflammation Response\*

Leading phytochemical databases maintained by the USDA and a major U.S. university identify multiple constituents in Gingerforce as modulating the 5-lipoxygenase enzyme.\* Recent scientific studies, including one published in the *Proceedings of the National Academy of Sciences*, suggest that 5-lipoxygenase modulation may serve an important role in supporting normal cell growth and activity in a number of the body's organ systems.\*

Scientific research further supports ginger as an effective prostaglandin modulator, naturally promoting a healthy inflammation response throughout the body.\* Ginger promotes fat-digesting bile and starch-digesting saliva.\* The active ingredients of ginger promote the growth of beneficial intestinal microorganisms, which are vital for intestinal health.\* Ginger contains at least 12 anti-aging and cardiogenic constituents that inactivate oxygen free radicals, some of these constituents shown *in vitro* to be up to 40 times more effective than Vitamin E.\*

### Gingerforce Supports Stomach, Liver, and Intestinal Health\*

New Chapter's patent-pending Gingerforce features the world's most potent full-spectrum ginger extract, at least 250 times the concentration of fresh ginger. This premier extract is Potency Assured™ to a minimum of 2.8 mg pungent compounds, and also contains at least 4.3 mg zingiberene, an important and active component of the essential oil of ginger. Because this is a full-spectrum extract, it contains hundreds of naturally occurring beneficial ingredients not similarly present in other extracts.

### The Revolutionary New Chapter Supercritical Extraction Process

Our supercritical extraction process is a breakthrough in herbal extraction. It's the cleanest, purest way to extract the plant's value and yields a superior extract that's highly concentrated, super pure and delivers the full spectrum of nature's powerful phytonutrients.

**GingerForce 60 Softgels Item# 01228**  
**Retail Price: \$29.95 Member Price: \$22.46**  
**To order GingerForce, call 1-800-544-4440**  
**or visit [www.LifeExtension.com](http://www.LifeExtension.com)**

Recent research in India, Denmark, and Japan suggests that ginger promotes circulatory health and balances the inflammatory process.\*

People assume that all herbal extracts are pretty much the same. Nothing could be further from the truth. The difference is incredibly meaningful: You get the maximum nutritional, protective health benefits of the whole herb – all of the important compounds – not just the isolated chemical constituent.

### How Supercritical Extraction Works

Rather than using a chemical solvent to extract the herb's nutrients (like a dry cleaner removing a stain), New Chapter uses a natural compound: compressed carbon dioxide (CO<sub>2</sub>).

It's a harmless natural gas found in the air we breathe and absorbed by plants all around us. And unlike chemical extraction, our process doesn't contaminate the herb, the environment, or your body.

We compress this natural gas until it's a semi-liquid. It can then "wash through" the natural source; collecting all of the key nutritive compounds. This gives us an extract that is all-natural, super potent, super pure and chock full of the precious, vital, life-enhancing ingredients your body craves.

### The Result: Super Potent, Super Pure Extracts

Consider that it takes as much as 250 pounds of fresh herbs to get just one pound of supercritical extract. It's intensive and costly, but it's the best way to obtain an herbal therapeutic that's super potent, super pure and delivers the full wisdom of nature.



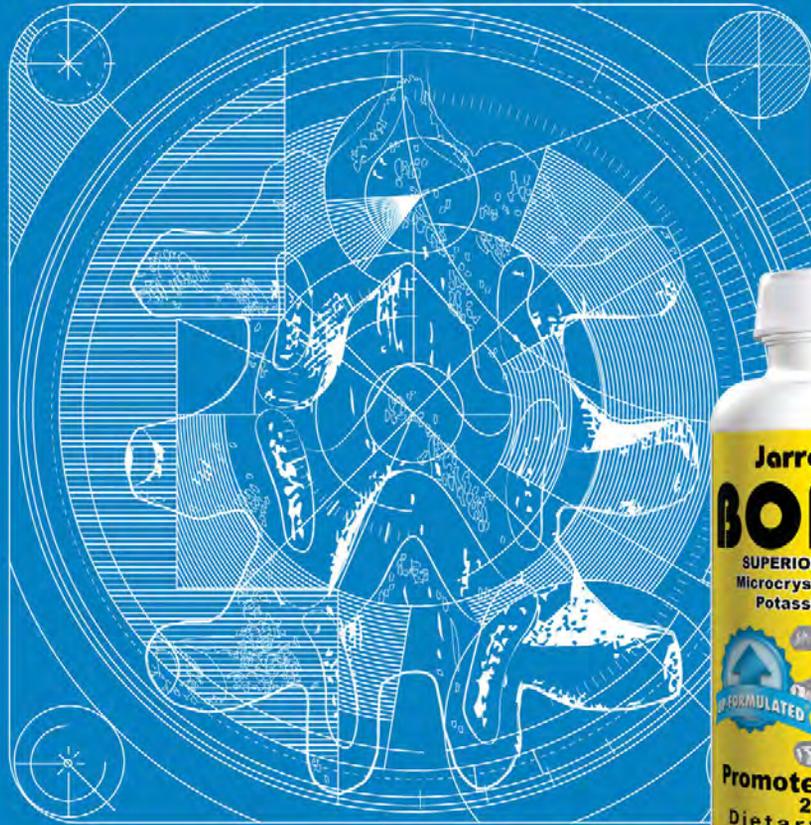
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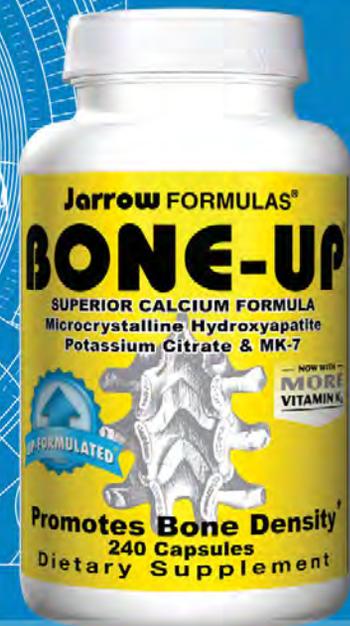
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# Better Bones by Design

2%-4% of your skeleton is "rebuilt" every year as calcium and minerals leave the bone and must be replaced.



— NOW WITH —  
**MORE**  
VITAMIN K<sub>2</sub>



## Jarrow FORMULAS® Presents . . . **A Complete Multi-Nutrient Bone Health System!**

**Bone-Up**® provides your body with much needed calcium as well as essential nutrients for building strong bones.\* It utilizes the finest source of calcium available: Australian/New Zealand bovine bone hydroxyapatite from chemical-free, range grazed calves less than two years old.

**Bone-Up**® is a clinically-validated formula and an effective addition to any bone health regimen.\* It features added vitamins and minerals that synergistically support healthy bone density and overall bone health\*:

- **Ossein Microcrystalline Hydroxyapatite (MCHA):** Promotes calcium balance.\*
- **Vitamin D<sub>3</sub>:** Converts to calcitriol to enhance calcium absorption.
- **MK-7:** The more bioavailable form of Vitamin K<sub>2</sub>, which is needed for building bone matrix and proper calcium distribution.
- **Boron:** A trace mineral important in calcium retention.\*
- **Manganese, Copper and Zinc:** Essential trace minerals involved in the formation of bone.

Jarrow Formulas® Bone-Up®, 240 capsules Item # 00313: \$24.95  
If a member buys four bottles, the price will be reduced to \$16.88 per bottle.  
To order, call (800)544-4440 or visit [www.LifeExtension.com](http://www.LifeExtension.com)

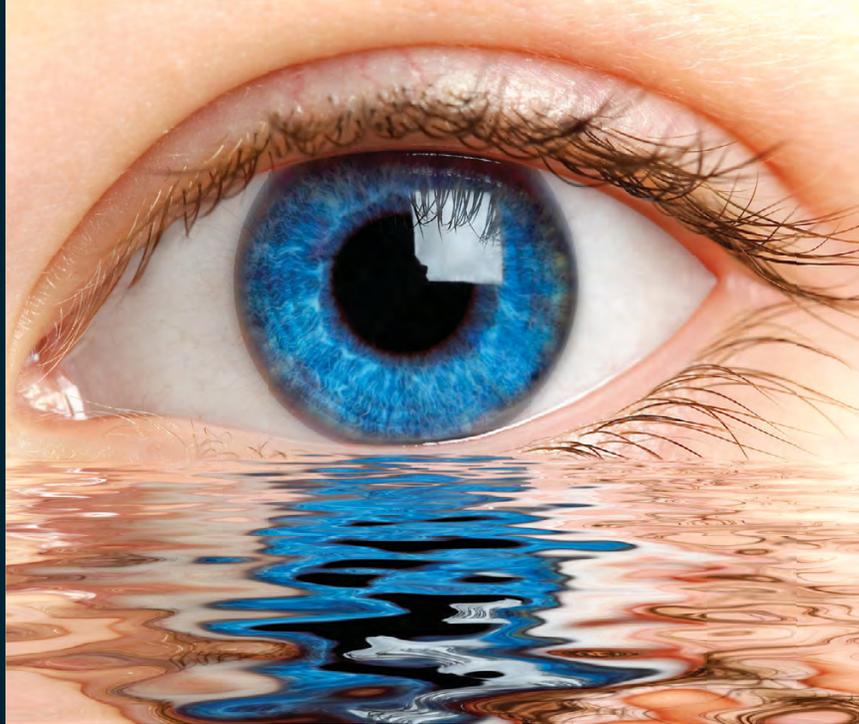
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FORMULAS®

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# C3G is now in your EYE PROTECTION FORMULA



Most **Life Extension**® members take a supplement containing zeaxanthin, lutein, meso-zeaxanthin, and astaxanthin to protect their vision.

With new findings that **C3G** (*cyanidin-3-glucoside*) can **enhance night vision**, it makes sense to add this unique berry extract to the **Super Zeaxanthin** formula. This enables members to obtain the **optimal amount** of **C3G** without having to swallow another capsule.

## Maintain Macular Density

The **macular pigment** is composed of lutein, zeaxanthin, and meso-zeaxanthin. The **density** of the macula is essential to proper vision. Macular density declines naturally over time.

Eating lots of lutein- and zeaxanthin-containing vegetables can help maintain the structural integrity of the macula. However, since **meso-zeaxanthin** is not part of the typical diet, it cannot be easily replaced. Young people convert lutein into meso-zeaxanthin inside their macula. Some aging people, however, lose their ability to convert lutein into **meso-zeaxanthin**.

The **Super Zeaxanthin** formula provides **zeaxanthin, lutein and meso-zeaxanthin** to help maintain macular density.

## Combat “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** contains a potent dose of **astaxanthin**, a carotenoid found in red algae. Studies show that taking astaxanthin with other carotenoids protects against free radical induced DNA damage, repairs UVA-irradiated cells, and inhibits inflammatory cell infiltration.<sup>1-4</sup> Astaxanthin also helps support vascular health within the eye and improves visual acuity.<sup>3</sup> Its fat-soluble nature offers protection to sensitive cells inside the eye.<sup>5</sup>

## Enhanced Night Vision!

Falling down is responsible for **70%** of accidental deaths in older people.<sup>6</sup> Poor lighting conditions are often the culprit.

Fortunately, **C3G** derived from **black currant** supports eyesight in **dark** conditions by promoting the healthy function of delicate structures within the retina that support **night vision**.<sup>7</sup>

**Super Zeaxanthin** now contains a potent dose of **C3G** to nourish cells throughout the body.

## Comprehensive Ocular Protection in One Daily Capsule

The new **Super Zeaxanthin** formula provides natural plant extracts that have been shown to promote healthy eyesight. Just one softgel of **Super Zeaxanthin with Lutein, Meso-Zeaxanthin Plus Astaxanthin and C3G** provides:

<b>OptiLut®</b> , <b>Lutein Plus®</b> and <b>MZ®</b> .....	<b>38 mg</b>
Marigold ( <i>Tagetes erecta</i> ) Extract (flower) [free lutein equivalent 10 mg]	
<b>Zeaxanthin &amp; Meso-zeaxanthin</b> blend .....	<b>3.75 mg</b>
[micronized zeaxanthin, <b>OptiLut®</b> , <b>Lutein Plus®</b> and <b>MZ®</b> Marigold Extract (flower)]	
<b>Natural Astaxanthin</b> .....	<b>6 mg</b>
(AstaREAL® and Zanthin® CO2 extracts of <i>Haematococcus pluvialis</i> algae)	
<b>C3G</b> (Cyanidin-3-glucoside) .....	<b>2.2 mg</b>
[from European black currant ( <i>Ribes nigrum</i> ) extract (fruit)]	

The retail price for a bottle containing 60 softgels of **Super Zeaxanthin with Lutein, Meso-zeaxanthin Plus Astaxanthin and C3G** is \$42. If a member buys four bottles, the price is reduced to just **\$28.50** per bottle.



Item # 01586

To order **Super Zeaxanthin with Lutein, Meso-zeaxanthin Plus Astaxanthin and C3G**, call **1-800-544-4440** or visit **www.LifeExtension.com**

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## WHAT'S INSIDE

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# LifeExtension<sup>®</sup> Magazine

### REVERSE SKIN AGING AROUND YOUR EYES



PAGE 54 • The area of thin, delicate skin around the eyes is one of the first places where signs of aging appear. The consequent emergence of crow's feet, bags, and dark circles make you look older than you really are. Discover their causes and how to reverse them *naturally*.

### OUR WARNINGS ABOUT RADIATION WERE IGNORED!



PAGE 24 • In **2002**, we urged that people keep a personal supply of thyroid-protective **potassium iodide** in case of a nuclear emergency. Most **Life Extension**<sup>®</sup> members were thus prepared for the disaster in Japan, despite an ensuing global shortage. Here we detail a nutritional regimen to protect the *entire body* if a nuclear event occurs near you.

### REDUCE STUBBORNLY HIGH TRIGLYCERIDES



PAGE 78 • Most doctors believe **triglyceride** levels up to **149** mg/dL are safe. The reality is they must be far below **100** to protect against heart attack and ischemic stroke. A recent study shows **tocotrienols** can lower artery-clogging triglycerides by **28%**. This is especially relevant for those with sub-optimal triglyceride levels despite daily fish oil intake.

### NATURAL METHOD TO REDUCE GLAUCOMA RISK FACTOR



PAGE 44 • Glaucoma is the second leading cause of blindness worldwide. Increased intraocular pressure is a silent risk factor. A European nutrient compound may *reduce intraocular pressure* by up to **24%** . . . and by **40%** when combined with conventional therapy.

### PROPRIETARY GREEN TEA EXTRACT PROTECTS THE KIDNEYS



PAGE 66 • Chronic kidney disease affects 26 million Americans. Early detection is *essential*. Left unchecked, it may result in the need for dialysis. The green tea extract contained in **Life Extension**<sup>®</sup>'s formula was shown to *protect* against drug-induced kidney damage.

### OBSCENE PROFITS OVER HUMAN LIFE



PAGE 89 • A recent CNN report presents a scandalous portrait of how federal officials *collaborated* with Pfizer to push a deadly drug on trusting patients—and shield the drug-company behemoth from prosecution.