

NOVEL WAY TO SUPPRESS EMOTIONAL EATING

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# LifeExtension®

The ULTIMATE Source For New Health And Medical Findings From Around The World

August 2010

**UNEXPECTED FINDING!**

**Omega-3  
Fatty Acids  
Increase  
Brain  
Volume**

**Protect Your  
DNA Against  
CT Scan Radiation**

**Hidden Link Between  
Obesity and Diabetes**

**Drugs That Deplete  
Vital Nutrients**

**PLUS—  
Vitamin K Lowers Diabetes Risk  
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Green Tea Suppresses Lung Cancer**



Improved Formula!

# Super Vitamin



# Softgels

Also included in  
**Life Extension Super Booster**

To order  
**Super K formula**  
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Item #01224

#### References:

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

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

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

**Vitamin K2** is absorbed much more efficiently than K1. Scientific studies show **K2** provides overwhelmingly superior benefits for the bones, arteries and other tissues.<sup>1-8</sup>

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

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

## Ideal Forms of Vitamin K2

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

The **MK-4** form of vitamin K2 is the most rapidly absorbed and is now routinely used in Japan to maintain healthy bone density. **MK-4**, however, only remains active in the blood for a few hours.

The **MK-7** form of K2, on the other hand, remains bio-available to the human body over a sustained 24-hour period and to higher levels (7- to 8-fold) during prolonged intake.<sup>9</sup>

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

## The Most Complete Vitamin K Formula

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

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

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

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

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

## More Expensive Forms of K2 ... Same Low Price

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

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

Contains tree nuts (coconut).

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





## REPORTS



### 26 CURB COMPULSIVE EATING WITH NOVEL SPICE EXTRACT

Do you routinely eat more than you mean to? Your problem may be more than a matter of self-control. A historic study reveals the brain chemistry behind compulsive eating and *drug addiction* is identical. The good news is a newly identified *saffron* extract targets these neurochemical factors, helping to curb appetite and reduce caloric intake.



### 38 COMBATING THE "DIABESITY" EPIDEMIC

Obesity-driven diabetes—now termed "diabesity" by some experts—is expected to affect **366 million** people worldwide by 2030, making it the largest epidemic the world has ever faced. Yet conventional medicine largely fails its victims through late detection and inadequate treatment. *Life Extension*® examines the overlooked factors behind this global health disaster and offers *multimodal* prevention strategies.



### 66 PROTECT YOURSELF FROM DEADLY DIAGNOSTIC RADIATION

Recent headlines on the appalling misuse of CT scans and X-ray imaging have finally drawn attention to their lethal effects. *Routine* diagnostic radiation exposure may account for nearly **30,000** new cancer cases each year. Here we detail an optimal *radioprotective* nutritional regimen, including polyphenols, trace minerals, and antioxidant compounds.



## 54 ON THE COVER

### OMEGA-3 FATTY ACIDS INCREASE BRAIN VOLUME

People who consume more omega-3s possess larger, more functional brains according to the latest research. Discover extraordinary findings on the unique power of these essential nutrients to combat various forms of mental illness, ward off neurological disorders, and even reverse brain aging.

## DEPARTMENTS



### 7 AS WE SEE IT

Fresh scientific evidence has forced arrogant doctors and indifferent regulators to concede what *Life Extension*® has argued for years: that needless CT scans and medical X-rays are placing hundreds of thousands of lives at risk through deadly DNA mutation.



### 19 IN THE NEWS

Greater vitamin K intake associated with lower diabetes risk; vitamin D status associated with physical function in older men and women; vinpocetine shows promise for chronic inflammation; broccoli compound targets breast cancer stem cells; and more.

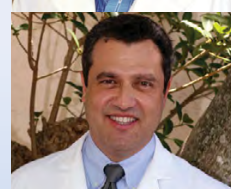
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Dr. Enrique Ginzburg, Professor of Surgery in the Division of Trauma and Surgery Critical Care at the University of Miami's Miller School of Medicine, combines cutting-edge science with a supplement-rich diet to give his patients the best chance at a longer life.



### ASK THE DOCTOR 83

Harlan C. Biele, MD, of the Healthy Aging Medical Center in Palm Beach, Florida, responds to a reader's question involving ways to combat drug-induced nutrient depletion.



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The credit card-sized **911 Medical ID Card™** or ultra-slim **911 Medical ID Medallion™** enables you to store and update your complete medical history and may literally be the difference between life and death.





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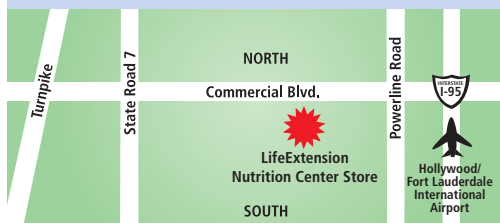
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# Does Your Pharmacy Care if You Live or Die?

Today's chain pharmacies have become drug-dispensing assembly lines. They fill whatever your doctor prescribes or insurance covers, regardless of what is best for your individual needs.

At **Life Extension Pharmacy™** we do things differently. We take advantage of our partnership with the Life Extension Foundation® for intimate knowledge of the peer-reviewed scientific literature about the prescription drugs you take ... including drug interactions, side effects, lower-cost alternatives, and, in some cases, safer and more effective ways to use your medications. It's our mission to preserve **your health and save you money.**

## Our Independent Thinking

As well as offering advice on the safety and effectiveness of your prescriptions, our team of pharmacists also explains how they can work synergistically with nutrient and hormone supplements to keep you healthy.

Consider the anti-coagulant drug **Coumadin®** (warfarin) as an example. While most doctors advise patients who are taking **Coumadin®** to avoid **vitamin K** supplements and vitamin K-containing foods, recent research demonstrates that **Coumadin®** plus low-dose vitamin K supplements (around **45 mcg** a day) can achieve more stable measurement of blood clotting time (the INR test). Even more important is that Coumadin's horrendous **side effects** (accelerated atherosclerosis and bone loss) may be preventable in the presence of stable vitamin K levels in the body.

Another problem occurs with drugs prescribed to treat **prostate cancer** (such as **Lupron®**) that deplete the body of **testosterone**. Through our collaboration with the Life Extension Foundation, we can advise patients on the specific steps they should take to protect against the lethal "**Androgen Deprivation Syndrome.**"

Another example is the statin drug **Crestor®**. This high-priced medication is flying out of pharmacies across the country. But should it be? Recent studies reveal that it's not right for everyone who is taking it. Visit [www.LifeExtensionRx.com/crestor](http://www.LifeExtensionRx.com/crestor) for our in-depth analysis on the latest Crestor® study.

## Tailored Services

So keep this in mind... the **Life Extension Pharmacy™** puts your **welfare first**. If a lower-cost drug may work better for you than an expensive brand name, we're going to recommend it. Combining the Life Extension Foundation's nutraceutical expertise with our pharmacists' in-depth knowledge of pharmaceuticals and customized prescription compounding, **Life Extension Pharmacy™** is committed to helping you get the very best results from your therapy.

### Simvastatin 40-mg (90 Tablets)

CVS Price	Life Extension Rx Price	% Saved
\$154.99	\$21.23*	<b>86%</b>

### Glyburide 5-mg (90 Tablets)

CVS Price	Life Extension Rx Price	% Saved
\$33.59	\$13.06*	<b>61%</b>

\* Prices as of June 15, 2010. Prices subject to change.

## Saving Your Money & Your Health

**Life Extension Pharmacy™** offers a range of ways to save you money including low-cost compounded drugs, life-saving prescription drugs at greatly discounted prices, and practical suggestions on how to conserve your health care dollars. To see how much we can save you, look at our prices for the statin **simvastatin** and the antidiabetic drug **glyburide** compared with CVS in the table above!

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Life Extension Pharmacy, Inc. is a licensed pharmacy based in Fort Lauderdale, FL. A portion of prescription proceeds goes to the Life Extension Foundation, a nonprofit organization.

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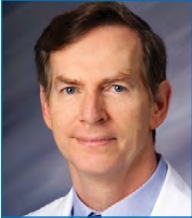
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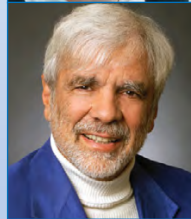
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Life Extension® was the first to introduce **coenzyme Q10** to the United States way back in **1983**. Since then, we have consistently introduced more **potent** and better **absorbable** forms of this critical nutrient.

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

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2. Facilitating more efficient *delivery* of **CoQ10** into the **mitochondria**, resulting in greater cellular energy output.<sup>5-9</sup>

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

PrimaVie® is a registered trademark of Natreon, Inc.  
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Item #01425



# Lethal Danger of CT Scans



BY WILLIAM FALOON



We tried everything... from *pleading* with arrogant physicians to providing *irrefutable* documentation to support our position. The response was always the same: we were “*out of our minds*” for suggesting that medical X-rays increase future **cancer** risks.

Our opposition could never substantiate that exposing healthy cells to *ionizing radiation* was safe. They did at one point rely on the **Atomic Energy Commission**, who claimed there were no dangers to low-level radiation exposure.

The **Atomic Energy Commission** was created to “*manage the development, use, and control of atomic (nuclear) energy for military and civilian applications.*” Like so many federal agencies, the priority was not to protect the public’s *health*. Instead this tax-funded bureaucracy (like the FDA) functioned to guarantee the economic success of the *industries* it regulated.<sup>1</sup>

By ridiculing those who warned about the carcinogenic effects of X-rays, the federal government and medical establishment enabled companies making CT scanners (and other radiation devices) to earn **tens of billions of dollars** in profit, with Medicare and private health insurance picking up most of the costs.

# AS WE SEE IT

## Radiation Overload

Compared to regular medical X-rays, CT scans yield much higher-resolution images. Unfortunately, CT scans also expose the patient to *hundreds* and sometimes *thousands* of times more radiation.<sup>2-4</sup>

The routine use of CT scans and other dangerous X-ray imaging procedures has *skyrocketed* over the past three decades. In **1980**, there were **3 million** CT scans done. By the year **2007**, the number increased to about **70 million**.<sup>5,6</sup>

We at **Life Extension**® long ago warned members to avoid CT scans and any kind of X-ray unless absolutely necessary. Up against us was an armada of for-profit companies who promoted CT scans to *healthy* people to measure *coronary artery* calcification, *virtual colonoscopy* in place of the more effective standard colonoscopy (flexible tube procedures), and even *whole-body*

CT scans to identify abnormalities anywhere in one's anatomy.

The irony is that health-conscious people, who often paid for whole-body CT scans out of their own pockets, unwittingly exposed their *whole body* to **huge** levels of DNA gene-mutating radiation!

## Absolutely Shocking Data

The uninformed public is in for a shocker.

A study released at the end of last year reveals that CT scans deliver up to **four times more radiation** than what was previously believed, which was already dangerously high.<sup>7</sup>

At the same time, another study led by the **National Cancer Institute** showed that CT scans administered in the year **2007 alone** may contribute to **29,000** new cancer cases and nearly **15,000** cancer deaths.<sup>8</sup>

The problem is that the explosion in unnecessary CT scans has been going on every year. If we carry this back just ten years, this means that **150,000** Americans are facing horrific deaths from CT scan-induced cancers.

Adding to this impending cancer epidemic are other medical procedures that deliver cancer-causing radiation into the body.

If the *only* benefit you ever obtain from **Life Extension**® membership is the knowledge to avoid unnecessary CT scans and medical X-rays, this alone is well worth the annual membership fee.

## Unsafe at Any Dose

Doctors argue that the amount of radiation emitted from regular medical X-rays is so low that there is no cancer risk. This flies in the face of data showing that any amount of radiation inflicts free radical damage to DNA that adversely affects our genes.<sup>9,10</sup> We long ago reported statistics indicating that a significant percentage of today's cancers are caused by medical radiation.<sup>8,11-13</sup> Radiation-induced cancers occur in response to mutations in genes that regulate cellular proliferation.

While doctors state that radiation is safe as long as it is kept at a certain level, we argued that even the smallest particle of radiation inflicts DNA damage. For radiation to be safe, all of the DNA damage must be repaired perfectly. Any damage not perfectly repaired creates mutations, any one of which has the potential to lead to further mutations that cause cancer. In fact, we long ago pointed to research showing that the lowest possible dose of radiation is not only unsafe, but also does far more damage than previously thought and is indeed mutagenic.<sup>14</sup>





## National Academy of Sciences Report

In June 2005, the National Academy of Sciences released a report stating that even very low doses of radiation can cause cancer. In its report, the National Academy defined low dose as being as low as “near zero.”<sup>15</sup>

While the researchers indicated that the cancer risk from any given X-ray is very small, their report stated: **“Risk would continue at a linear fashion at lower doses without a threshold and that the smallest dose has the potential to cause a small increase in risk to humans.”**<sup>15</sup>

As you can see by the chart on this page, the amount of radiation emitted from a typical medical X-ray is quite low. Typical X-rays, however, are becoming a relic of the past. CT (computerized tomog-

raphy) scans provide a much better picture of your insides, but use much more radiation. A CT scan of your abdomen, for example, exposes you to an amount of radiation equivalent to that of **500** or more chest X-rays.<sup>16</sup>

The more worrisome diagnostic procedure is the whole-body scan, which experts have estimated is the equivalent of **900** chest X-rays.<sup>11</sup> According to the *National Academy of Sciences* report, a 45-year-old who planned to undergo 30 annual whole-body scans would potentially increase his or her cancer risk many times.<sup>15</sup>

The National Academy of Sciences stated that there is no radiation threshold below which exposure can be viewed as harmless. This finding means that everyone who has had a medical X-ray is at some increased risk for developing leukemia or a solid cancer.

Considering how many X-rays people are exposed to in a lifetime, the risk of developing cancer from the cumulative effects of so many X-rays and CT scans is a serious concern.

## Radiation Overdoses from CT scans

The amount of radiation a patient is exposed to can be greatly reduced if X-ray technicians took the time to adjust the *intensity* of the dose depending on individual circumstances. For instance, more radiation is needed for an abdominal CT scan of an obese individual compared to someone lean. A child needs much less radiation than an adult.

You can request “intensity modulated radiation” prior to a CT scan, but whether an apathetic technician pays attention to your



Diagnostic Procedure	Typical Effective Dose (mSv) <sup>1</sup>	Number of Chest X-rays (PA film) for Equivalent Effective Dose <sup>2</sup>	Time Period for Equivalent Effective Dose from Natural Background Radiation <sup>3</sup>
Chest X-ray (PA film)	0.02	1	2.4 days
Skull X-ray	0.07	4	8.5 days
Lumbar spine	1.3	65	158 days
IV urogram	2.5	125	304 days
Upper GI exam	3.0	150	1.0 year
Barium enema	7.0	350	2.3 years
CT scan (head)	2.0	100	243 days
CT scan (abdomen)	10.0	500	3.3 years

1. Effective dose in millisieverts (mSv).

2. Assumes an average “effective dose” from chest X-ray (PA film) of 0.02 mSv.

3. Assumes an annual average “effective dose” from natural background radiation of 3 mSv in the US.

**Source:** European Commission, Radiation Protection Report 118, “Referral guidelines for imaging,” Directorate General for the Environment of the European Commission; 2000.

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request is another matter. They are more likely to state there is no danger to any dose they administer.

As risky as properly done CT scans are, reports published at the end of 2009 exposed instances of major medical centers being so sloppy in adjusting the settings on their CT scanners that patients were exposed to up to **eight times** the normal radiation dose.<sup>17-19</sup>

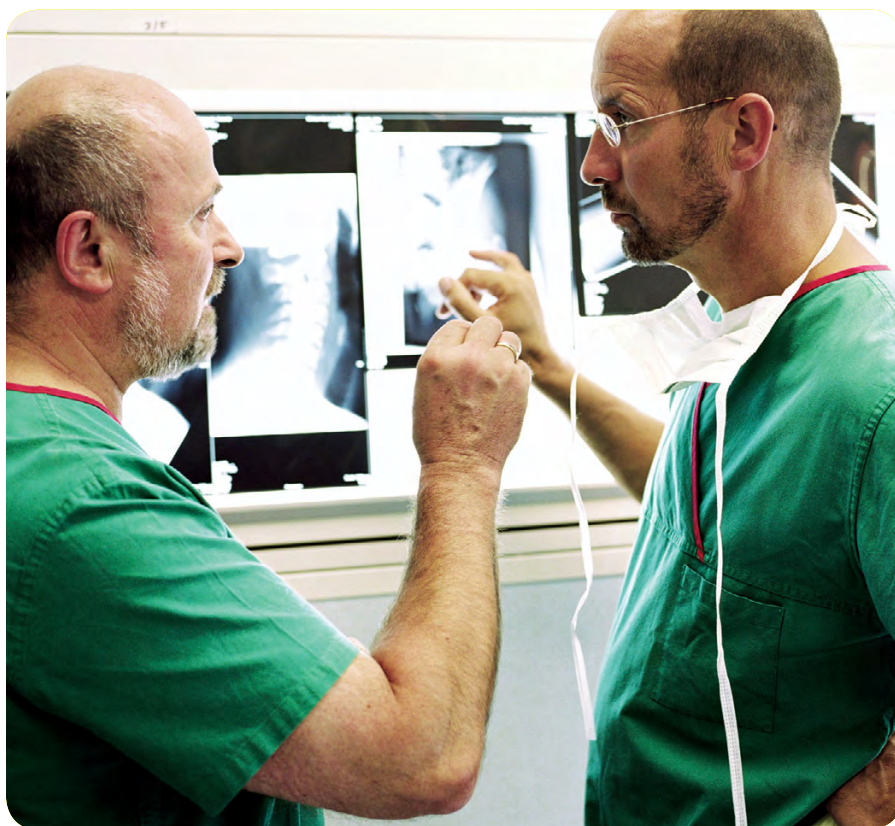
Children are more vulnerable to the long-term effects of the DNA damage inflicted by X-rays. In one particularly heinous case, a 30-month-old child was exposed to more than **60** minutes of continuous CT scans when the normal time period is only **2-3** minutes. The hospital's radiology manager called the overdose a "*rogue act of insanity*" while the chief of the state's regulatory division said it was "*one of the more egregious, extreme cases that I have ever seen.*"<sup>20</sup>

The reality is that for the convenience of the X-ray technicians, CT scanner settings are seldom adjusted to use the least amount of radiation to obtain a clear image.

### Tribute to the Pioneer Who Took On the Establishment

In 2005, I had the privilege of receiving a telephone call from **John Gofman, MD, PhD**. For those who don't know, he was one of the great scientific minds of the 20<sup>th</sup> century. Dr. Gofman praised our work for getting the word out about the lethal dangers of medical X-rays and encouraged us to keep up the fight.

Dr. Gofman was a **physicist** turned **medical doctor** whose early work on radioactive isotopes resulted in his recruitment to work on **The Manhattan Project** at Los Alamos, New Mexico to develop the first atomic bomb.



In **1947**, Dr. Gofman began research that would soon lead him to conclude that **cholesterol** is a cause of **atherosclerosis**.<sup>21,22</sup> Dr. Gofman and his colleagues were the first to show that specific fractions of cholesterol such as **LDL** (low-density lipoprotein) are the most dangerous. Dr. Gofman was involved in the publication of possibly the first book in **1951** about how low-fat and low-cholesterol diets prevent heart disease.<sup>23</sup>

Dr. Gofman's expertise on the biological effects of radiation caused him to later take a very controversial position. He meticulously documented how diagnostic X-rays were a cause of cancer and vascular disease in the 1960s, long before anyone suspected this link. The Atomic Energy Commission and medical establishment fiercely contested Dr. Gofman's allegations that medical X-rays caused any harm.

I am always amazed at individuals who are able to contribute so much to our scientific base of knowledge. In Dr. Gofman's case, he was instrumental in harnessing nuclear energy, warning of the dangers of low-level radiation, and then moved on to a completely different field to discover specific fractions of cholesterol that cause atherosclerosis.

I was saddened to learn that Dr. Gofman died of heart failure two years after my conversation with him, possibly caused by the radiation exposure he encountered while working with radioactive isotopes.

### Dr. Gofman Explained How X-rays Cause Atherosclerosis

John W. Gofman, MD, PhD, was Professor Emeritus of Molecular and Cell Biology at the University of California, Berkeley and one



of the world's most distinguished medical and nuclear scientists. His research showed that no amount of radiation—no matter how small—is safe.<sup>24-27</sup>

Dr. Gofman's data analysis conflicts with other reports from the standpoint that he believed far more cancers are caused by medical radiation. Further, he came to the conclusion that exposure to radiation from medical procedures is a "highly important (probably principal) cause" of cancer and ischemic heart disease in America.<sup>13</sup>

How would radiation cause heart disease? According to Dr. Gofman, the same way it causes cancer. Radiation damages DNA—in this case, DNA in the arteries. The radiation-induced changes create a cancer-like phenomenon in the arteries known as atheroma. Dr. Gofman believed that the interaction between atheromas and

lipids blocks arteries and causes blood clots.

One of radiation's most striking effects is causing arterial cells to multiply abnormally. The abnormal growth of cells lining the arteries has the effect of narrowing the arteries.

Abnormal growth of smooth muscle tissue inside the artery creates something similar to scar tissue that occludes the arteries and ruins their flexibility. Lipid-laden cells, monocytes, macrophages, cholesterol, fibrin, and calcium are all components of plaques and collect within damaged areas in the inner arterial wall where arteries eventually clog.

As early as **1944**, scientists showed that radiation could produce plaques and foam cells.<sup>28</sup> Since then, additional studies have demonstrated that radiation can produce arterial lesions, sticky platelets, and increased free

radicals.<sup>29-34</sup> In fact, radiation can create atherosclerosis in its entirety.<sup>35</sup> Studies show that people who have undergone radiation of areas containing major blood vessels often develop atherosclerosis in those blood vessels.<sup>36,37</sup>

### Medical Radiation and Today's Breast Cancer Epidemic

Breast cancer incidence has sharply increased since the year 1960. This correlates with an exponential increase in the use of medical X-rays.

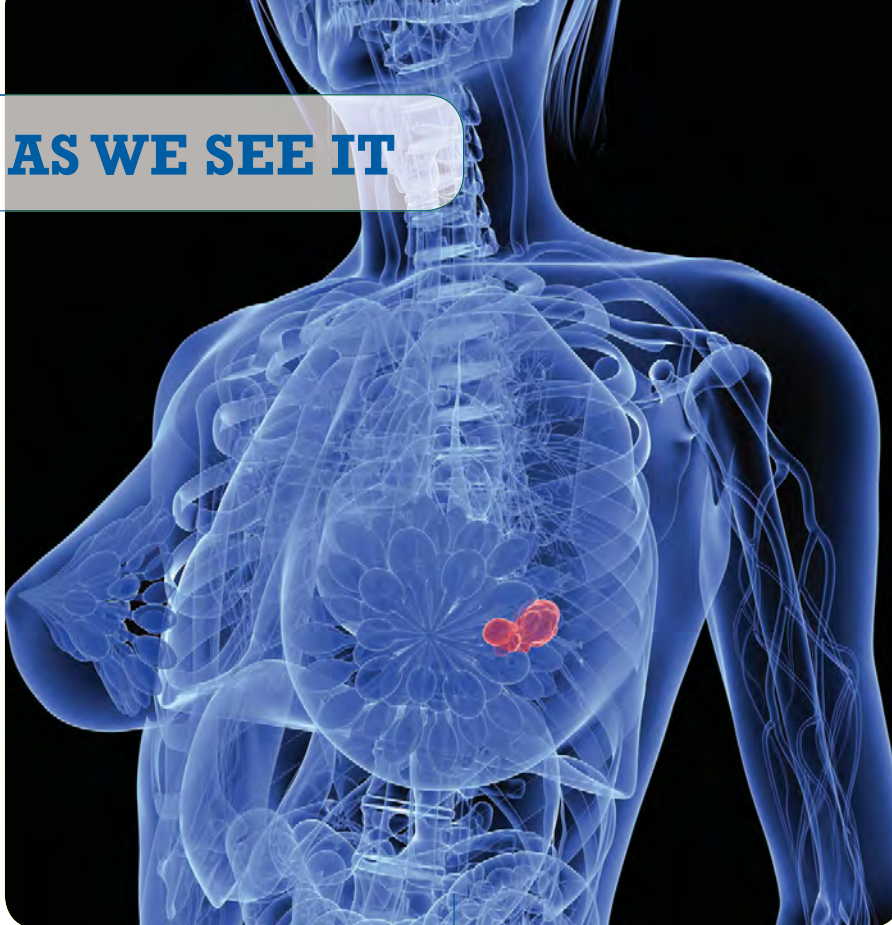
The most recently released data indicate that as many as 2,000 excess cases of breast cancer will develop as a result of CT scans performed in the year 2007 alone!<sup>38</sup>

Dr. John Gofman, however, knew this nearly 40 years earlier. In 1970, Gofman and his colleague Arthur Tamplin wrote to *The Lancet*<sup>39</sup> expressing their concern that the amount of radiation needed to double the risk of breast cancer was very low. Young women were especially vulnerable, he said, and the greater the radiation exposure, the greater the risk. The evidence was there that radiation exposure could significantly increase the risk of breast cancer, but few were following up on this critical research.

In a lecture given at a meeting held by the American Association for the Advancement of Science in 1994, Dr. Gofman presented his findings showing that there was increased breast cancer in Japanese women who survived the US atomic bombings of Hiroshima and Nagasaki.<sup>40-42</sup> Studies on mice and guinea pigs showed that cancer-resistant animals developed breast cancer if given repeated doses of radiation.<sup>43</sup> But the most damning research about breast



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cancer and radiation was preliminary data from young women who had undergone repeated fluoroscopies as part of their tuberculosis treatment from 1930-1950. These women were developing breast cancer at more than double the expected rate.<sup>44-48</sup>

In preparing for the breast cancer talk, Gofman began looking into how many cases of breast cancer in America might be caused by radiation exposure. His first estimate was that 35% of all breast cancer cases wouldn't exist had the women not been exposed to medical radiation. His revised estimate, published a year later, was 75%.<sup>49</sup> Gofman paid particular attention to such exposures during years 1920-1960 because those exposures would contribute to breast cancer rates for at least the next 45 years. Gofman did not believe these exposures were the only cause of the women's cancers, but he believed they played a major role in making them come about.

According to Gofman, the lag time between radiation exposure

and cancer is variable. Data shows that the average lag time between radiation exposure from the American raids on Japan and the appearance of breast cancer in Japanese women was about 12 years.<sup>41</sup> However, it can occur sooner or later. Radiation has greater carcinogenic effects on younger people. Data from the Japanese studies show that if a woman was 20 years old or younger when exposed to the radiation, she had a **13-fold** elevated risk of breast cancer occurring by the time she was 35 (assuming 1 Sievert of radiation).<sup>50</sup> Some studies put the risk for older women at double. Regarding children, it has been stated that 10 rads administered to a fetus is enough to produce all forms of childhood cancer, whereas the same amount in an adult would not have that effect.<sup>51-54</sup>

Critics were unable to demonstrate that Gofman's 75% radiation-induced breast cancer figure was wrong. They could challenge it using different assumptions, but as Gofman puts it, "*they were unable*

*to show any basis for thinking that their assumptions were more likely to be right than our assumptions.*" (Editor's note: Human radiation research is based necessarily on *assumptions* because human experiments cannot be done.)

### The Other Side of the Story

While the radiation emitted from CT scans will cause hundreds of thousands of cancer cases and an untold number of heart attacks and strokes, this does not mean that they should be banned.

You may remember the term "*exploratory surgery*" to describe hospital operations that used to be done to diagnose a disease. With the advent of imaging devices like CT scanners, these risky hospital procedures have become a virtual relic of the past.

If a patient suffers an acute stroke, an emergency CT scan can determine whether it is an *ischemic* (blocked artery) stroke or *hemorrhagic* (blood vessel bleed) stroke. If an ischemic stroke is quickly diagnosed and treated with a clot-busting drug like TPA (tissue plasminogen activator), brain damage can be mitigated or eliminated. A hemorrhagic stroke, on the other hand, might require immediate surgery to repair the broken blood vessel. CT scans can also help doctors ascertain areas of trauma in severe accidents.

Stroke or accident victims might not have time for **magnetic resonance imaging** (MRI) or **magnetic resonance angiography** and therefore require an immediate CT scan.

While **Life Extension** recommends that **magnetic resonance imaging** or **ultrasound** diagnostics be used in place of X-rays whenever possible, the following



medical problems may require that a CT scan be performed as opposed to MRI:

- **Patient has a cardiac pacemaker;**
- **Patient has an implantable cardiac defibrillator;**
- **Patient has a metallic foreign body near or in their eye;**
- **Patient has an aneurysm clip on one of the delicate blood vessels in the brain;**
- **Patient has metallic orthopedic hardware such as metal screws or plates to hold bone(s) together.**

In general, MRI offers better contrast resolution and better assessment of soft tissue pathology like tumors, ligaments, and tendons. MRI also offers the ability to change the reference plan for imaging without needing to move the patient. CT scan, in comparison, is better than MRI at evaluation of bony lesions (e.g., bone metastasis) and bone fractures.

If a CT scan is absolutely necessary, ask that the intensity be modulated so the least amount of radiation needed to obtain an image is used.

Cancer patients can often benefit from whole body PET (positron emission tomography) scans whereby metastatic lesions can be detected by virtue of the “hot spots” that their *hypermetabolic* activity generates. The amount of radiation emitted in PET scans (or PET CT scans) is similar to a typical CT scan. While avoiding needless radiation is important for otherwise healthy people, cancer patients can benefit from the data gathered from PET scans by virtue of identifying the existence and location of metastatic disease before symptoms manifest.

## My Personal Experience with Needless Radiation Exposure

Crooked doctors exposed me to an enormous amount of needless radiation at an early age. Unless

the nutrients I take (like high-dose vitamin D) *reverse* the radiation-induced gene mutations, I will be vulnerable to a host of cancers and heart disease for the rest of my life.

As you have read, medical X-rays not only damage genes that regulate cellular proliferation (thereby increasing cancer risk), but they also damage the inner lining of the arteries (the endothelium) thereby increasing cardiovascular risk.

When I was age **27**, I developed some heart palpitations. Had I known a competent cardiologist at the time, my **mitral valve prolapse** would have been diagnosed by a low-cost **ultrasound** test.

Instead, I was ordered to check into the hospital where my health insurance company was *financially* raped in every way imaginable. The cardiologist insisted that I undergo an **angiogram**, a procedure that involved threading a catheter into my heart to evaluate my arteries and valves. A **continuous X-ray** is what guided the catheter going into my heart.

The cost in today’s dollars for the needless angiogram I endured is over **\$20,000**. Hospital fees add to this outrageous number.

If you become infuriated when your insurance company refuses to pay for a drug or diagnostic procedure your doctor prescribes, remember that for decades, the conventional medical establishment *defrauded* health insurance companies by ordering all kinds of unnecessary, expensive tests. Insurance companies have become so defensive today that they often deny patients necessary diagnostics such as **magnetic resonance imaging** (MRI) that do not emit ionizing radiation.

I hope that anyone reading this article has acquired the information and fortitude to say no the



next time their doctor tries to perform an unnecessary X-ray or CT scan.

## The Value of Information

When a cardiologist told me that I needed an angiogram, there was no one to turn to for guidance. Conventional medicine ruled in that era, and doctors were seldom challenged. If I could have just called an organization like the **Life Extension Foundation**® back then, I would have been told that the **ultrasound** diagnostic procedure was all I needed.

As a **Life Extension** member, you are armed with cutting-edge information that can enable you to make medical choices based on hard science—not on antiquated dogma or financial bias.

While some medical X-rays are unavoidable, you should inquire as to whether an ultrasound, MRI (magnetic resonance imaging), or MRA (magnetic resonance angiography) might provide alternative imaging. You might also question whether a particular X-ray is necessary, as doctors often prescribe them merely to protect themselves from liability. This may be good for doctors as it confirms their diagnosis, but bad for you as your DNA can sustain irreversible damage.

Heart scans, CT scans, whole-body scans, PET scans, and virtual colonoscopies all emit tremendous amounts of radiation and should not be used for routine screening.

I remain dedicated to educating the public to avoid unnecessary CT scans and medical X-rays. Low-cost ultrasounds can sometimes substitute, whereas higher-cost MRIs can sometimes yield more detailed images. **Blood tests** can provide a better indicator of coronary artery disease risk than heart CT scans, while simultaneously

identifying *correctable* risk factors such as elevated LDL, triglycerides, glucose, and C-reactive protein.

In this month's issue, we discuss ways of protecting one's DNA against the carcinogenic and athrogenic effects of ionizing radiation in *case* a CT scan or medical X-ray is required.

For longer life,



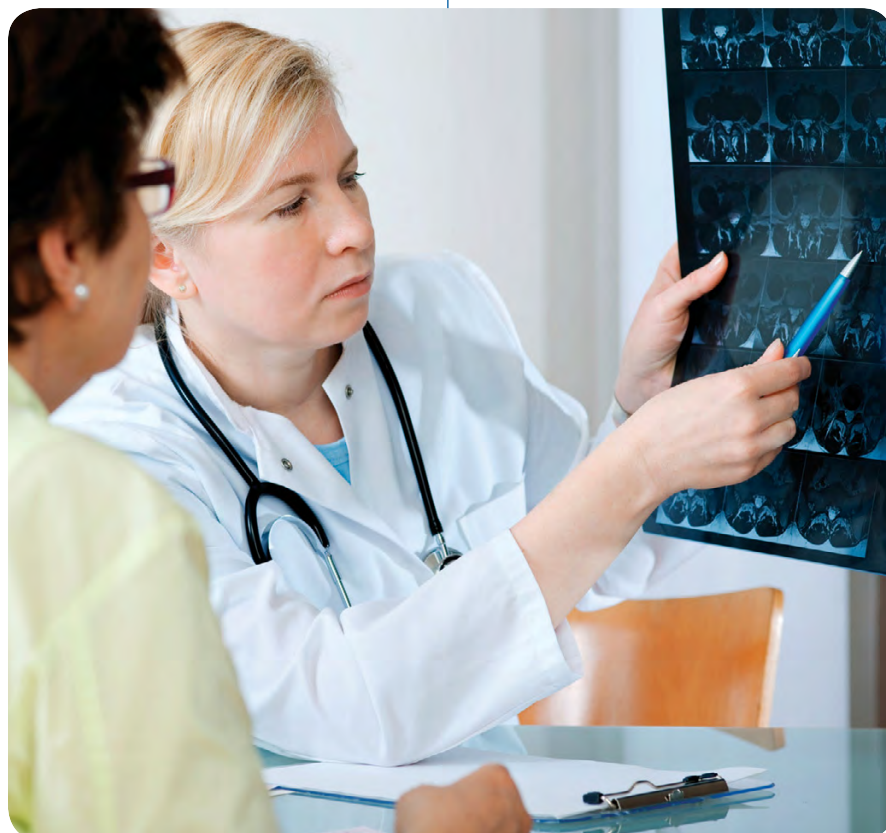
William Faloon

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## INTRODUCING

### The Next Generation in Anti-Aging Technology **CR Mimetic Longevity Formula**

featuring an Innovative  
Resveratrol *Enhancer*

OR

### **Optimized Resveratrol with Synergistic Grape-Berry Actives**

featuring an Innovative  
Resveratrol *Enhancer*



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

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

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

Today we announce the latest innovation in the science of longevity with new **CR Mimetic Longevity Formula** and **Optimized Resveratrol**, both featuring **fisetin**. This little-known flavonoid is the sixth compound shown to simulate a similar youthful gene expression pattern as calorie restriction<sup>9</sup>—without significant dietary modification.

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

### **Unleashing the Synergistic Power of Berry Actives**

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

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

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

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

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

Most importantly, fisetin works in *synergy* with resveratrol. Researchers have uncovered compelling evidence of fisetin’s ability to **stabilize** resveratrol by shielding it from metabolic breakdown<sup>10</sup> and extending its effects.

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

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



### CR Mimetic Longevity Formula

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

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



Item #01429



### Optimized Resveratrol with Synergistic Grape-Berry Actives

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

<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>



Item #01430

Contains yeast.

### References

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**TO ORDER THE NEW**  
**CR Mimetic Longevity Formula or**  
**Optimized Resveratrol with Synergistic**  
**Grape-Berry Actives,**  
**call 1-800-544-4440 or**  
**visit [www.LifeExtension.com](http://www.LifeExtension.com)**



# LARGEST SELECTION OF VITAMIN D SUPPLEMENTS

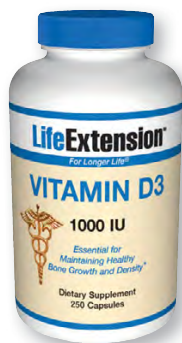
More studies have been published over the past four years supporting the health benefits of **vitamin D** than possibly any other compound.

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

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

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

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

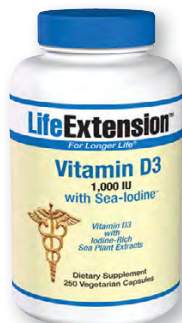


■ **Vitamin D3 1,000 IU • 250 capsules**  
Retail: **\$12.50**

Four bottle Member Price: **\$8.44**

Commercial companies offered only **400 IU** vitamin D products when Life Extension long ago introduced this **1,000 IU** version. For most people, this 1000 IU potency is *insufficient* to attain optimal vitamin D blood levels. For smaller individuals who obtain **2,000-3,000 IU** in their multi-nutrient formulas (and children), this potency of vitamin D may be suitable. **Item# 00251**

Please refer to website for allergen information.

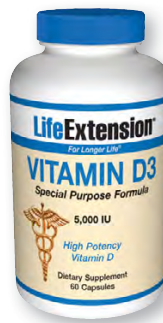


■ **Vitamin D3 1,000 IU with Sea-Iodine\* 250 vegetarian capsules**  
Retail: **\$22**

Four bottle Member Price: **\$15**

Most people do not ingest enough vitamin D and iodine, especially those seeking to reduce their salt intake. Combining **vitamin D3** and **iodine** into one capsule makes taking these two nutrients economical and convenient. **Item# 01371**

Please refer to website for allergen information.



■ **Vitamin D3 5,000 IU • 60 capsules**  
Retail: **\$11**

Four bottle Member Price: **\$7.43**

For those obtaining **1,000-3,000 IU** of vitamin D in their multi-nutrient formulas, this **5,000 IU** potency is what most need to *achieve* optimal vitamin D blood levels. **Item# 00713**

Please refer to website for allergen information.



■ **Vitamin D3 5,000 IU with Sea-Iodine\* 60 vegetarian capsules**  
Retail: **\$14**

Four bottle Member Price: **\$9.38**

Most people do not ingest enough vitamin D and iodine, especially those seeking to reduce their salt intake. Combining **5,000 IU** of **vitamin D3** and **1,000 mcg** of **iodine** into one capsule makes taking these two nutrients economical and convenient. **Item# 01372**

Please refer to website for allergen information.



■ **Vitamin D3 7,000 IU • 60 capsules**  
Retail: **\$14**

Four bottle Member Price: **\$9.45**

Some individuals (such as those weighing more than 180 pounds) may require higher potencies of vitamin D. When combined with **1,000-3,000 IU** obtained from multi-nutrient formulas, this **7,000 IU vitamin D3** capsule should enable these individuals to attain **25-hydroxyvitamin D** blood levels above the desired range of **50 ng/mL**. **Item# 01418**

Please refer to website for allergen information.



■ **Vitamin D3 Liquid Emulsion 2,000 IU • 1 ounce**  
Retail: **\$28**

Four bottle Member Price: **\$18.75**

For those rare individuals who have difficulty absorbing enough vitamin D3 from powdered capsules, this liquid emulsion of vitamin D can be used. **Item# 00864**

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

\* If you have a thyroid condition or are taking antithyroid medications, do not use without consulting your healthcare practitioner.

To order any of these high-potency vitamin D3 supplements, call **1-800-544-4440** or visit **www.LifeExtension.com**





## IN THE NEWS

### Greater Vitamin K Intake Associated with Lower Diabetes Risk

A study reported in the journal *Diabetes Care* has found an association between the intake of both phylloquinone (vitamin K1) and menaquinones (vitamin K2) with a lower risk of developing type 2 diabetes.\*

Researchers at University Medical Center Utrecht analyzed data from 38,094 Dutch participants in the EPIC study cohort. Over a median follow-up period of 10.3 years, 918 cases of type 2 diabetes were diagnosed.

Adjusted analysis of the data uncovered a 19% lower risk of developing diabetes in men and women whose vitamin K1 intake was among the highest 25% of subjects compared with those whose intake was among the lowest fourth.

A linear relationship was observed between lower vitamin K2 and the development of diabetes. Greater consumption of vitamin K2 was also associated with improved blood lipids and reduced levels of C-reactive protein, a marker of inflammation.

**Editor's note:** The study is one of several recent In The News articles concerning the numerous benefits of vitamin K.

—Dayna Dye

\* *Diabetes Care*. 2010 Apr 27.

### Vitamin D Status Associated with Physical Function in Older Men and Women

A presentation given on April 25, 2010 at the Experimental Biology 2010 meeting described the discovery of Wake Forest University researchers of an association between higher vitamin D levels and improved physical functioning among older individuals.\*

Dr. Denise Houston of Wake Forest University's Sticht Center on Aging and her colleagues analyzed data from 2,788 healthy participants in the Health, Aging, and Body Composition study, which was designed to evaluate associations between body composition, long-term health conditions, and mobility in older individuals. Lower extremity function was evaluated at the beginning of the study and at 2 and 4 years.

Although physical function decreased on average among all participants over the follow-up period, those who had high vitamin D levels at the beginning of the study retained better function, with improved performance scores and gait speed across the 3 time points compared to those whose levels were lowest.

**Editor's note:** The study is one of only a few to examine the longitudinal relationship between vitamin D levels and physical function.

—Dayna Dye

\* Presentation given on April 25, 2010 at the Experimental Biology 2010 meeting.



## Supplementation with Glucosamine and Chondroitin Associated with Lower Mortality Over a 5-Year Period

An article published online in the *American Journal of Clinical Nutrition* revealed the discovery of a lower risk of death from all causes among users of the arthritis supplements chondroitin and glucosamine over an average 5-year follow-up period.\*

The study included 77,673 men and women. Dietary supplement use during the 10 years prior to enrollment was documented in questionnaires completed by all participants.

Over an average 5 years of follow-up, 3,577 deaths occurred. While none of the supplements evaluated, which included individual B vitamins, fiber and other supplements, were associated with an increased risk of dying over follow-up, adjusted analysis confirmed an association between the use of glucosamine and chondroitin with reduced risk. The authors remarked that chondroitin and glucosamine may inhibit nuclear factor-kappaB (NF-kB)-dependent pathways, and that abnormal regulation of NF-kB is associated with cancer and inflammatory diseases.

**Editor's note:** While previous research by the team, summarized in the July 24, 2009 issue of *Life Extension Update*, sought to determine the impact of multivitamins and vitamins C and E on mortality, the current investigation focused on the effect of less common supplements.

—Dayna Dye

\* *Am J Clin Nutr.* 2010 Apr 21.

## Brain Blood Flow Possibly Boosted By Resveratrol

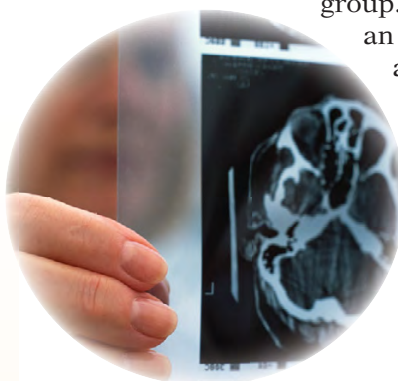
A recent study in the *American Journal of Clinical Nutrition* states that high doses of resveratrol may improve blood flow in the brain and potentially boost brain health.\* The researchers, led by David Kennedy from the Brain, Performance, and Nutrition Research Centre at Northumbria University, ran a randomized, double-blind, placebo-controlled, crossover study, which involved 22 healthy adults who either received a placebo, or one of two doses of resveratrol (250 or 500 milligrams). Forty-five minutes after the dose was given, participants were measured for blood flow and cognitive performance for over a half hour.

The results showed that resveratrol produced a dose-dependent increase in cerebral blood flow, but no increase in the placebo group. Kennedy and his team also noticed an increase in levels of deoxyhemoglobin after both doses of resveratrol, which was indicative of increased oxygen extraction and utilization.

“The results of the current study provide the first indication in humans that resveratrol may be able to modulate cerebral blood flow variables,” the researchers wrote.

—Jon Finkel

\* *Am J Clin Nutr.* 2010 Mar 31.



## Vinpocetine Shows Promise for Chronic Inflammation

Findings revealed in an article published online recently in the *Proceedings of the National Academy of Sciences* suggest that vinpocetine, a derivative of vincamine (from the periwinkle plant), could be useful for the treatment of chronic inflammatory diseases such as atherosclerosis, chronic obstructive pulmonary disease (COPD), arthritis, infectious diseases and cancer.\* Chen Yan, PhD from the University of Rochester Medical Center and colleagues reported that vinpocetine acts as an anti-inflammatory agent in a mouse model of lung inflammation and in cell cultures.\*

“What is extremely exciting and promising about these findings is vinpocetine’s excellent safety profile,” Dr. Yan remarked. “Previously, most drugs tested in this area have failed, not because of a lack of efficacy, but because of safety issues. We’re very encouraged by these results and believe vinpocetine has great potential for the treatment of COPD and other inflammatory diseases.”

**Editor's note:** Vinpocetine is a dietary supplement that has been used for many years to help prevent cerebrovascular disorders and memory loss.

—Dayna Dye

\* *Proc Natl Acad Sci.* 2010 May 6.







## Resveratrol Supplementation May Benefit Chronic Colitis Sufferers

According to a recent study by Spanish researchers, dietary supplementation of resveratrol may have a beneficial effect against chronic colitis.\* Their research, which was published in the *European Journal of Pharmacology*, was intended to examine the protective effects of ingesting resveratrol supplements to combat chronic dextran sulphate sodium (DSS)-induced colitis, an experimentally-induced form of the disease.

While resveratrol has been linked with potentially beneficial effects against cancer, inflammation, heart disease, Alzheimer's, and diabetes, the scientists wanted to take a closer look at how this potent polyphenol would affect colitis. Their study involved six-week old mice that were split into two dietary groups. One group was on a standard diet while the other group's diet was enriched with resveratrol. After 30 days, the mice were exposed to 3% DSS for five days, inducing acute colitis, which became chronic colitis after 21 days.

At the study's conclusion, they noted that the resveratrol-fed animals survived and finished the treatment while animals fed a standard diet showed a mortality rate of 40%.

—Jon Finkel

\* *Eur J Pharmacol*. 2010 May.

## EGCG Suppresses Lung Cancer Cell Growth

A recent study done by the Hormel Institute at the University of Minnesota, in Austin, indicates that green tea may help stop lung cancer growth.\* The study, which focused on epigallocatechin gallate (EGCG), a polyphenol compound in the catechin family that is highly concentrated in green tea, set out to examine reports that EGCG suppresses lung cancer.

The study's researchers found that EGCG interacted with the Ras-GTPase-activating protein SH3 domain-binding protein 1 (G3BP1). They also showed that EGCG suppressed the independent growth of H1299 and CL13 lung cancer cells, which contain a large amount of G3BP1 protein.

Additional results showed that EGCG effectively attenuated G3BP1 downstream signaling, including extracellular signal-regulated kinase and mitogen-activated protein kinase/extracellular signaling-regulated kinase.

The researchers concluded that green tea, which is one of the most popular beverages in the world, may in fact be a potent cancer fighter. The studies strongly indicated that green tea, via its EGCG content, suppresses lung tumorigenesis through its binding with G3BP1.

**Editor's note:** *Life Extension* has advocated the use of green tea as a powerful antioxidant for years. This study is yet another confirmation that supplementing with green tea extract can be highly beneficial to the body.

—Jon Finkel

\* *Cancer Prev Res (Phila Pa)*. 2010 May;3(5):670-9.

## Broccoli Compound Targets Breast Cancer Stem Cells

In research conducted at the University of Michigan, a compound known as sulforaphane, found in broccoli and broccoli sprouts, was demonstrated to target cancer stem cells in cell cultures and in mice. Cancer stem cells, which are not destroyed by chemotherapy, are believed to be involved in the ability of breast cancer to recur, grow, and spread.\*

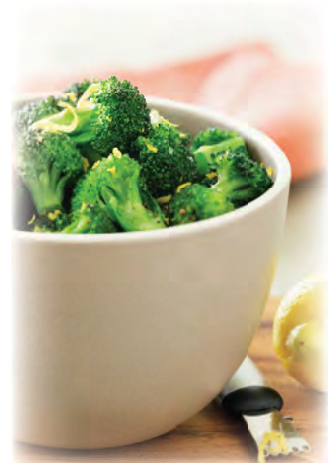
Duxin Sun, PhD and colleagues injected varying concentrations of sulforaphane derived from broccoli extract into mice implanted with human breast cancer tumors. Examination of the animals' tumors uncovered a substantial reduction in cancer stem cells, while normal cells did not appear to be significantly affected. Additionally, cancer cells derived from animals that received sulforaphane that were re-implanted into other mice failed to form tumors.

"Sulforaphane has been studied previously for its effects on cancer, but this study shows that its benefit is in inhibiting the breast cancer stem cells," Dr. Sun stated.

**Editor's note:** The concentrations of sulforaphane tested in the study were higher than those provided by normal consumption of broccoli or its sprouts.

—Dayna Dye

\* *Clin Cancer Res*. 2010 May 1.





## Transdermal Menopausal Hormones May Be Most Effective

Until recently, estrogens and androgens were commonly administered orally to patients to improve quality of life for postmenopausal women; however, transdermal hormone therapy is beginning to replace it.\* With this cutting-edge delivery system, estrogen and testosterone are dosed into the microvascular circulation directly through the skin; this avoids a first-pass hepatic transformation or deactivation of the dosed estrogen or testosterone.

In this review, done by the Division of Reproductive Endocrinology and Infertility at the Warren Alpert Medical School of Brown University, Women and Infants Hospital, scientists examined recent clinical trials involving transdermal estrogen and testosterone in postmenopausal women.

The scientists concluded that transdermal estrogen and testosterone, when administered to the proper patients, significantly and safely enhances the quality of life. These advantages may lead to increased usage and wider popularity of this delivery system.

—Jon Finkel

\* *Expert Opin Pharmacother.*  
2010 Apr 28.

## Obesity Linked to Increased Availability of Unhealthy Foods

The alarming trend of increased childhood obesity seems to be linked to increased intake of unhealthy foods rather than decreased energy expenditure, according to a report from Neal Barnard, president of the Physicians Committee for Responsible Medicine.\*

Dr. Barnard analyzed food availability data maintained from 1909 to 2007. Dr. Barnard found that during that time period, per capita food availability increased as follows:

- Oils increased from 35 to 87 pounds per person per year
- Meat increased from 124 to 200 pounds per person per year
- Cheese increased from 4 to 33 pounds per person per year
- Frozen dairy products increased from 1.5 to 25 pounds per person per year

Furthermore, from 1970 to 2007, per capita availability of sweeteners increased from 119 to 136 pounds per person per year. This rise in availability of caloric sweeteners reflects a decline in beet and cane sugar and an increase in high-fructose corn syrup. Part of this may be related to the sharp increase in the availability of carbonated beverages, which increased by 57 liters (15 gallons) per person per year when comparing 2007 data to 1980 data.

“Many people have been trying to understand what has caused the obesity epidemic,” Dr. Barnard told *Life Extension*. “Our analysis of USDA figures shows that the big increases over the last century have been in the amount of meat, cheese, oil, and frozen desserts that people are consuming. While people tend to blame a lack of exercise, it appears that meaty, cheesy diets are largely to blame.”

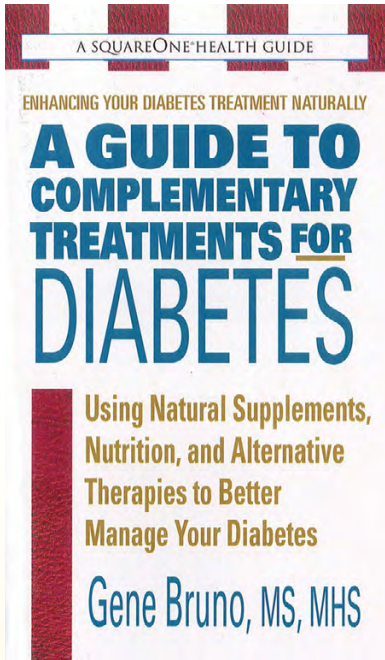
—Marc Ellman, MD

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





## BOOK REVIEW



## A Guide to Complementary Treatments for Diabetes:

Using Natural Supplements, Nutrition, and Alternative Therapies to Better Manage Your Diabetes

By Gene Bruno, MS, MHS

For the 18 million Americans who have diabetes, *A Guide to Complementary Treatments for Diabetes* (Square One Publishers, 2010) may feel like a life raft in a sea of complicated diabetes treatments. And since most standard treatment programs help a patient control diabetes, often-times the things done to box in the disease are not effective at preventing the serious, life-altering complications that may come about from it.

If you or a loved one have diabetes, you are no doubt familiar with some of these terrible complications, including neuropathies, cardiovascular issues, circulation problems, retinopathy, and weight gain. The purpose of *A Guide to Complementary Treatments* is to offer natural solutions that may help keep some of these symptoms at bay or at least decrease the severity.

The author of the book, Gene Bruno, MS, MSH, is the Dean of Academics and a professor at the Huntington College of Medicine. In his introduction, he says that “the vast majority of diabetes books that I have read address issues relating to dietary modifications and the use of diabetic medications (like insulin)... *A Guide to Complementary Treatments* is different... This is a book about using dietary supplements and other complementary therapies to help treat

diabetes and the most common complications that arise from it. As the name complementary implies, this book is meant to be an adjunct to the patient’s existing diet and drug program, *not* a replacement for that program.”

With the mission of the book clearly laid out, Bruno goes on to tackle the most persistent problems diabetics face by offering potential natural treatments that may be found in your local pharmacy. From popular antioxidants like green tea to less common herbs like *Coleus forskohlii*, Bruno introduces alternative therapies, tells the reader why they may be effective by citing scientific studies, and even offers dosing information. In addition, he writes about the possible effectiveness of physical treatments like acupuncture and tai chi. And since diet plays such an important role in treating diabetes, there’s even information about how to find your own personal chef.

As you’ve no doubt noticed, no stone is left unturned in this thorough, practical book. As Chris Kilham, author of the best-selling book *Medicine Hunter* states, “I have come to expect the highest scholarship from Gene Bruno, and that is exactly what he delivers here. This is a highly valuable health guide.”

# Ease Joint Discomfort With **Arthro-Immune** Joint Support

*Effectively  
Combat Inflammation*



One capsule provides:

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

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

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

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

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

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

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

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

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

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

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





# TRIPLE ACTION CRUCIFEROUS Vegetable Extract with Apigenin



ITEM #01468



ITEM #01469

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

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

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

For those weighing less than 160 pounds, just one capsule a day provides optimal potencies. Those weighing over 160 pounds should consider taking two capsules a day. A 60-capsule bottle of **Triple Action Cruciferous Vegetable Extract** retails for \$24. If a member buys four bottles, the price is reduced to only **\$16.50 per bottle**.

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

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

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

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**To order Triple Action Cruciferous Vegetable Extract, call 1-800-544-4440 or visit [www.LifeExtension.com](http://www.LifeExtension.com)**

Contains yeast and corn.

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.







BY JULIUS GOEPP, MD

# Curb Compulsive Eating *Naturally*

## Novel Spice Extract Targets the Neurochemistry of Appetite

Do you find yourself routinely eating more than you mean to? Struggle with weight gain because you can't exercise "portion control?" Feel bad about it—but can't stop yourself from snacking?

In other words, have you ever gotten the feeling that food is *addictive*?

According to the latest scientific findings, *you're right*—and a novel natural intervention may now help you bring those urges under control.

In a historic study published earlier this year,<sup>1,2</sup> a team of researchers demonstrated for the first time that the underlying biomolecular mechanisms driving millions to overeat are *identical* to those that lock people into the death spiral of cocaine and heroin addiction.

This landmark discovery confirms what many clinicians have long suspected: compulsive eating is as much a matter of brain chemistry as behavior.

Of course, no *drug* exists that can regulate appetite and induce weight loss without significant health risks.<sup>3</sup> Some have proven disastrous. It was only *after* the lethal FDA-approved "**fen-phen**" drugs were shown to cause **pulmonary hypertension** and **heart valve disease**<sup>4</sup>—that the agency was forced to withdraw it.

The exciting news is a *natural* appetite regulator has been identified that operates at the neurochemical level to help provoke "satiety"—the feeling of being full. This unique extract is derived from **saffron**, prized for centuries not only as a spice but also as a **mood enhancer** in traditional cultures.<sup>5,6</sup>

Here you will learn of **saffron's** capacity to boost **serotonin**, a neurotransmitter whose role in appetite and satiety is well established.<sup>3,7,8</sup> You will discover how a team of French researchers uncovered the ability of saffron to *dramatically* decrease feelings of hunger between meals. You will also find out how just **88.25 mg** twice daily of a standardized saffron extract may help you effectively modulate some of the underlying psychological factors that make you eat more than you want to, with no side effects. > >



### Serotonin's Role in "Emotional" Eating

Although its precise neurochemical mechanisms of action were confirmed only this year, the fundamentally *psychiatric* nature of what some experts call emotional eating has received clinical validation in an abundance of studies.<sup>9-12</sup> When severe enough, it reaches the level of a *compulsion*—a clinically diagnosable anxiety-related disorder. Compulsive eating occurs in about 30% of obese women,<sup>13</sup> although its prevalence in the general population greatly exceeds that number. It is strongly correlated with poor impulse control, depression,<sup>14</sup> and relapse following weight loss.<sup>15</sup> In keeping with anecdotal observation, research shows its victims tend to gravitate toward sweet, non-nutritious foods<sup>16</sup> like candy and ice cream.

In one of the most compelling findings on emotional eating to date, Dutch researchers reported this year that compulsive eating can result from a common *gene variant* for the molecule that transports **serotonin**, one of the body's primary **mood regulators**.<sup>17</sup> People carrying this gene suffer from lower serotonin activity, predisposing them to depression and anxiety, especially under stress.<sup>18-20</sup> The Dutch study revealed that teens carrying this gene indulge in emotional eating at a significantly higher rate.

Antidepressants may offer some relief from emotional eating. Unfortunately, they can be costly,

lose effectiveness over time, and come with a host of side effects—from sexual dysfunction to suicidal thoughts<sup>21-23</sup>—underscoring the need for safe, low-cost options.

Thanks to a team of pioneering French scientists, a next-generation *natural* alternative has come to light.

### Saffron Extract: A Novel Intervention

Saffron has been used in traditional Persian medicine for centuries as a treatment for insomnia and anxiety.<sup>24</sup> French researchers Cédric Bourges and his colleagues Jacques Noury and Bernard Gout<sup>25,26</sup> set out to corroborate these therapeutic effects and apply them to the treatment of eating disorders. They hypothesized that "*through an action against the anxiety component of eating behaviors such as food compulsions, saffron could alleviate the need for food between meals.*"<sup>26</sup>

They first conducted a pilot placebo-controlled study using a proprietary saffron extract in a small group of healthy-to-slightly overweight women aged 46-61.<sup>25</sup> Their results were modest: 3.6 pounds lost, almost all of it fat weight, after 4 weeks.

More striking to Bourges and his team were the significant *declines* in reported feelings of hunger between meals, an effect that persisted until dinner



in **25%** of women taking the saffron extract.<sup>25</sup> In contrast, **50%** of placebo recipients reported an increased desire to eat. By the end of the study, **100%** of women in the saffron group reported successful reduction in daily between-meal eating, as opposed to controls, who saw no improvement.

Armed with these encouraging findings, Bourges and his colleagues launched a full-scale trial of 60 slightly overweight women 25-45 years old.<sup>26</sup> This time, they focused specifically on women who reported frequent, anxiety-related between-meal and after-dinner snacking. Their goal was to test the saffron's *psychotropic* (mood-altering) potential in helping to reduce the anxiety behind compulsive eating.

Once again, weight loss was relatively modest: over one pound at the 2-week mark versus a slight gain in the placebo group. By 8 weeks, the average weight loss had increased, reaching just over two pounds, with **26%** of subjects losing up to **11 pounds**. Interestingly, women taking saffron saw a significant reduction in **thigh circumference**.

It was the *psychological* effect reported in the saffron group that again proved most compelling, especially given this cohort's susceptibility to compulsive between-meal consumption. The women reported a significant reduction in feelings of hunger before meals. They also experienced a significantly diminished "need" to snack between meals. The favorable alteration in these urges had concrete results. At baseline, women in both groups had reported an average of about 12 snacking episodes per week. After eight weeks, the average was just six episodes per week in the saffron group—a **50% reduction**.

These results validated the French team's hypothesis: something about this particular saffron extract was working to control the compulsion to eat in this vulnerable sample of women. They reported that "subjects in the saffron group felt significantly more alert and energetic than the placebo group"<sup>26</sup>—feelings that correspond with emergence from sub-clinical depression and anxiety. As noted above, depression and anxiety are the foundation for compulsive eating. The key to this saffron extract's potency, it turned out, lay in its effects on levels of *serotonin*.

### The Depression Connection

Based on the findings of Bourges's team, it has been proposed that saffron extracts might inhibit serotonin reuptake in synapses. Inhibiting *synaptic serotonin reuptake* keeps this mood-elevating neurotransmitter in the brain longer, enhancing its effects and combating depression. This proposed mechanism is supported by recent animal studies demonstrating

## Saffron Extract

- A historic 2010 study conclusively demonstrated that the neurochemical processes behind compulsive eating and drug addiction are identical, suggesting a *neurological* intervention for appetite control.
- No safe, effective *drug* exists to favorably alter the neurochemistry of appetite, and some, like "fen-phen," have proven deadly.
- A proprietary extract of saffron has been shown to reduce the impulses behind uncontrolled "between-meal" snacking safely and effectively.
- Scientists believe it works primarily by boosting levels of serotonin, reducing the depression, anxiety, and stress central to compulsive eating.
- Saffron extract has been shown to be as effective as the tricyclic antidepressant drug *imipramine* and the SSRI *fluoxetine* (Prozac®) in managing depression—with no side effects.
- By targeting the neurochemistry at the root of compulsive eating behavior, saffron extract serves as a safe, natural way to reduce caloric intake and induce weight loss.



## Habitual Snacking: A Dangerous “Seesaw” Effect

Snacking isn't necessarily dangerous . . . but it can be. It depends on the snack food. Every time you ingest a snack rich in *sugar*, you're unknowingly subjecting your body to what clinicians call an “oral glucose tolerance test.” You're placing a stressful demand on your body to produce excessive amounts of **insulin** to drive down the abrupt spike in blood sugar caused by the snack food you just ingested. This insulin spike then causes a sudden decline in blood sugar levels—and that decline triggers yet *another* hunger episode. The result is a “seesaw” of mutually reinforcing impulses that may culminate in a dangerous cycle of uncontrolled eating. Many compulsive eaters focus on weight management without recognizing the centrality of this extremely detrimental physiological process to their suffering. Reducing your exposure to these endless fluctuations in blood glucose is the key to taking control of your compulsion to eat. Modulating the neurochemical factors behind habitual snacking can help.



antidepressant properties in extracts of multiple parts of the saffron plant.<sup>27</sup>

Saffron extracts have also demonstrated efficacy in managing mild to moderate depression and anxiety in humans<sup>24,27-29</sup>—the same disorders that drive emotional eating. This affords a novel alternative to antidepressant drugs.

Extracts of saffron have been proven superior to placebo for management of mild to moderate depression in a number of controlled clinical trials, consistently producing better outcomes on the standard Hamilton depression rating scale.<sup>28,30</sup> Saffron extracts also outperformed placebo in a related study of premenstrual syndrome.<sup>31</sup> (The premenstrual phase is often accompanied by depressed mood and caloric overconsumption.)<sup>32</sup>

Even more compelling are the comparative data on saffron and prescription antidepressants. In one study, just **30 mg** of standardized saffron extract delivering active constituents such as *safranal* and *crocin* produced results similar to **100 mg** of the tricyclic antidepressant



*imipramine*.<sup>33</sup> The same amount of saffron extract produced results identical to the popular selective serotonin reuptake inhibitor (SSRI) *fluoxetine* (Prozac®) in separate trials.<sup>34,35</sup> Saffron produced no side effects, while the antidepressants produced a familiar list of adverse effects, including dry mouth and sedation.<sup>32</sup>

Emotional and compulsive eating have ties to anxiety, as well as depression. Animal studies show that safranal possesses anti-anxiety (*anxiolytic*) properties without affecting coordination or motor activity.<sup>24</sup> One pre-clinical model found that saffron extracts were as effective as *diazepam* (Valium®) at reducing manifestations of anxiety.<sup>29</sup>

A complementary body of research indicates a positive role for saffron extracts containing safranal as an optimal intervention for stress and anxiety—core factors in the development of eating compulsions.

A complementary body of research indicates a positive role for saffron extracts containing safranal as an optimal intervention for stress and anxiety—core factors in the development of eating compulsions.

### Natural Anxiety and Stress Control

Treating anxiety with *benzodiazepines* like Valium® (diazepam) may be temporarily effective, but it produces significant side effects, among them impaired memory.<sup>36</sup> In contrast, saffron extracts not only reduce the depression and anxiety that can lead to emotional eating—they *prevent* memory impairment.<sup>37</sup> In fact, saffron extracts have been shown to enhance memory.<sup>38</sup>

Scientists have developed a working understanding of how saffron produces these effects in the brain. Active extracts of saffron increase so-called *long-term potentiation*, the electrochemical mechanism underlying learning and memory at the cellular level.<sup>39</sup> This effect has proven powerful enough to protect experimental animals' brains from alcohol-induced memory loss.<sup>40,41</sup> By an entirely different set of mechanisms, saffron extracts also protect brain cells in culture from inflammatory damage and death induced by cytokines such as TNF- $\alpha$ .<sup>42</sup>

Interestingly, advances in our understanding of stress and anxiety reveal that they are accompanied by increased *oxidative* stress in brain cells.<sup>43</sup> Earlier this year, scientific evidence emerged indicating that oxidative stress in the brain is *also* a positive marker for compulsive behavior.<sup>44</sup> Accordingly, there's evidence that saffron's capacity to limit emotional eating may be related to its antioxidant capacity.<sup>45,46</sup>

### Summary

A historic 2010 study conclusively demonstrated that the neurochemical processes behind compulsive eating and drug addiction are identical—suggesting a novel *neurological* intervention for appetite control. While no safe, effective *drug* exists to favorably alter the neurochemistry of appetite, a proprietary saffron extract has been shown to reduce uncontrolled “between-meal” snacking without side effects.

At the core of saffron's power is a scientifically validated ability to boost levels of serotonin, reducing the depression, anxiety, and stress central to compulsive



eating. These effects, prized in traditional Persian medicine and corroborated by a team of pioneering French researchers, have been shown to be equal in potency to the tricyclic *imipramine* and the SSRI *fluoxetine* (Prozac®) in managing depression. By targeting the neurochemistry at the root of compulsive eating behavior, saffron extract serves as a safe, natural way to reduce caloric intake and induce weight loss. ●

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

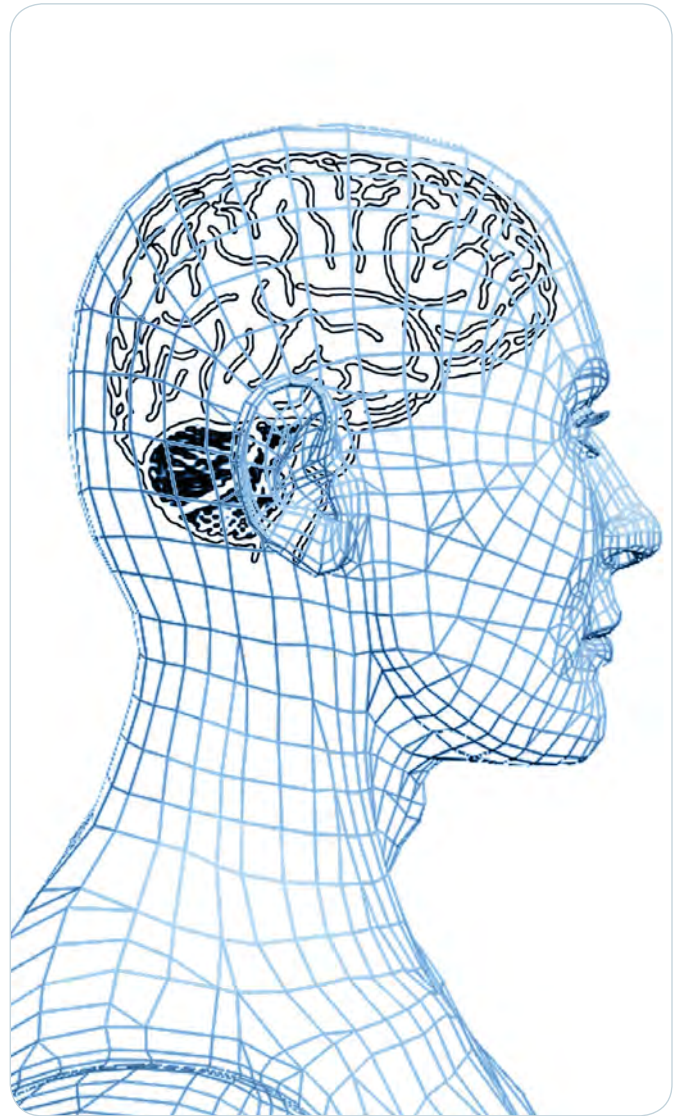


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# Complete Skin Protection *From Inside Out*

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

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

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

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

**Enhanced FernBlock® with Sendara™** is complemented with a powerful antioxidant called ***Phyllanthus emblica***. This natural extract blocks a chemical reaction that generates several types of skin-damaging free radicals, thus shielding the skin against the destruction of collagen and other dermal matrix proteins. An *in vitro* study<sup>2</sup> using a patented extract of both **ashwagandha** and ***Phyllanthus emblica*** demonstrated an impressive **54%** inhibition of collagen-degrading enzymes and an **86%** inhibition of those that break down hyaluronic acid—the skin's natural moisturizer.

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

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

Contains corn and rice.

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2. NutraGenesis LLC. Data on file. 2008.

Patent Pending Sendara™ is a trademark of NutraGenesis LLC.

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



Item #01311

TO ORDER  
**Enhanced FernBlock®  
with Sendara™**,  
call **1-800-544-4440** or  
visit **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.





## POWERFUL PROTECTION AGAINST LDL Oxidation and Proinflammatory Cytokines

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

Research has shown that unique extracts present in black tea called **theaflavins** can have multiple applications for arterial health.<sup>1</sup>

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

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

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

A bottle of 30 350-mg vegetarian capsules of **Theaflavin Standardized Extract** retails for \$18. If a member buys four bottles, the cost is only **\$12 per bottle**.

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



Item #01304

To order **Theaflavin Standardized Extract Capsules**, call 1-800-544-4440  
or visit [www.LifeExtension.com](http://www.LifeExtension.com)

# Lubricating Aging EYES

**Maintaining eye health is a major concern as we age.**

As we get older our eyes become vulnerable to a variety of insults that can cause **irritation, dry eye,** and **structural dysfunctions**. Applying lubricating eye drops can alleviate eye discomfort.

Life Extension®'s **Brite Eyes** formula provides the best daily eye drops without irritation.

**Brite Eyes** contains two proven **lubricants** (*hydroxymethylcellulose and glycerin*) that are FDA-approved for ophthalmic use. Unlike conventional eye drop formulas, these **lubricants** are 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.

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**.



ITEM #00893

**To order Brite Eyes III today, call 1-800-544-4440  
or visit [www.LifeExtension.com](http://www.LifeExtension.com)**



# Quit Eating More Than You Want To!

**D**o you often find yourself snacking between meals? Resolve to stop, but can't help reaching for that extra cookie? Are you losing the "battle of the bulge" because you have difficulty exercising portion control?

A next-generation, 100% *natural* nutrient may be the answer.

## An Ancient Solution to a Modern Problem

**Satiereal®** is a clinically studied, proprietary extract of **saffron**. You know saffron as a spice. What you may not know is that it has been prized in traditional cultures since ancient Persia as a way to enhance mood and relieve stress.<sup>1,2</sup>

Previously available only in Europe, this standardized saffron extract provides support for healthy body weight by targeting some of the emotional factors that make you eat more when you're *trying* to eat less.

The suggested daily serving of just two **88.25 mg** capsules of new **Optimized Saffron with Satiereal®** delivers the active constituents **safranal** and **crocin**. They have been shown to modulate certain *serotonergic* receptors in the brain to support mood.<sup>3-6</sup> In clinical studies,<sup>7,8</sup> women taking Satiereal® experienced . . .

1. 100% reduction in the desire to snack
2. 50% fewer instances of eating between meals
3. Less hunger
4. Moderate weight loss
5. More energy
6. Better mood

## Feel Better About Food Again

In fact, they reported feeling better about themselves *and* better in general. The result was a greater sense of control over between-meal snacking, and a change in eating behavior, without that "jittery feeling" or other undesirable effects.<sup>8</sup>

The same can happen for you.

No more "grazing."

No more midnight "kitchen raids."

Strengthen your resolve. Let **Optimized Saffron with Satiereal®** help you break the cycle of eating more than you want to—and eat what you want, *when* you want.

A bottle containing 60 vegetarian capsules of **Optimized Saffron with Satiereal®** retails for \$36. If a member buys four bottles, the cost is just **\$24** per bottle.

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Item #01432

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

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



To order  
**Optimized Saffron with Satiereal®**,  
call **1-800-544-4440**  
or visit **www.LifeExtension.com**

Satiereal® is a registered trademark of INORÉAL.  
International patents pending.

The fact that Satiereal® induced significant reductions (100%) in the desire to snack, but with only moderate weight loss, is further support for the multi-pronged approach needed to effectively manage weight that has long been espoused by Life Extension®.







# Combating the “Diabetesity” Epidemic

The combination of diabetes and obesity—now termed “diabetesity” by some experts—is the largest epidemic the world has ever faced.<sup>1</sup> By some estimates, the total number of individuals with obesity-induced diabetes will escalate to **366 million** worldwide by 2030,<sup>2</sup> with an 8-10 year<sup>3</sup> reduction in their life expectancy.

The harbingers of diabetesity can go undetected for years, as conventional medicine persists in *late* detection by “waiting” for blood markers to reach critical levels, then adopting failed strategies that can *worsen* the patient’s outlook for survival.<sup>4</sup>

Aging individuals are told to focus on blood sugar levels without an explanation of the lethal factor linking obesity and diabetes: *inflammation*.<sup>5,6</sup> Fat cells generate inflammatory cytokines. Excess fatty tissue floods the body with these harmful signaling molecules, triggering a pathological cascade across a range of additional bodily tissues, impairing their response to insulin and leptin, and disabling their ability to properly metabolize sugars, fats, and protein.<sup>7</sup>

This deadly feedback loop may commence long before full-blown diabetes manifests,<sup>8</sup> suggesting the need for a *multimodal* prevention strategy implemented far in advance of early signs and symptoms.

In this article, you will learn how **curcumin** imposes an anti-inflammatory *blockade* via multiple physiological pathways—including those associated with diabetes onset. You will also discover how it enhances glucose control and insulin sensitivity, quells inflammation at the cellular level, and restores balance across a range of systems normally ravaged by diabetes. Adding to the extraordinary benefits of curcumin, new studies have shown that **carnitine**, **vitamin E**, and **magnesium** complement curcumin in controlling the many destructive elements of high blood sugar. Together, all these nutrients can make a significant difference in the battle against diabetesity. > >



### Curcumin: Glucose Control and Increasing Insulin Sensitivity

Experiments in type 2 diabetic animals reveal that curcumin suppresses spikes in glucose levels via multiple mechanisms.<sup>9-12</sup> A curcumin complex was shown to significantly reduce blood glucose and lipid levels in diabetic rats *and* restore blood pressure and endothelial function to normal.<sup>13</sup> PPAR (*peroxisome proliferator-activated receptor*) is a group of nuclear receptor proteins that modulate metabolism through helping regulate gene expression and facilitating sugar uptake and utilization from the blood. Activation of PPAR is one way that curcumin exerts its glucose-lowering effects.<sup>14</sup>

Another way curcumin brings blood sugar under control is in the liver, where it decreases activity of enzymes that make new sugar molecules, while increasing activity of enzymes that break down and store sugar.<sup>15,16</sup> To do this curcumin activates a liver complex called AMP-activated kinase (AMPK) at a rate that may be higher than **metformin**, while simultaneously reducing expression of glucose-producing genes.<sup>17</sup>

Curcumin further contributes to glucose control in diabetes by increasing the number of insulin receptors on cell membranes and improving their insulin-binding capacity, restoring both to near-normal levels.<sup>10</sup> Increasing sugar uptake from blood, decreas-

ing new glucose formation, and increasing insulin's effectiveness are three entirely independent means by which curcumin lowers blood sugar.

### Curcumin Fights Oxidation and AGEs: the Inflammation Blockade

*Advanced glycation end-products* (AGEs) form when glucose cross-links with functional proteins, rendering them dysfunctional and destroying cell membranes and vital enzyme systems.<sup>18</sup> The resulting inflammation produces oxidant stress and further tissue injury.<sup>19</sup> Curcumin blocks formation of AGEs and prevents many of their oxidant-induced, inflammation-promoting, tissue-damaging effects.<sup>20,21</sup>

For example, blindness caused by diabetic retinopathy is a direct result of capillary overgrowth from long-term exposure to high glucose levels and resultant inflammation.<sup>22</sup> Curcumin was shown to help *suppress* some of the AGE-induced inflammatory changes that promote diabetic retinopathy. It also lowered levels of growth factors that promote capillary proliferation.<sup>23-27</sup>

Cataracts, another vision-threatening consequence of diabetes, result from damage to delicate proteins in the eye's lens, producing cloudiness and eventually opacity. Curcumin delayed progression and maturation of cataracts in diabetic rats, countering the oxidative stress and reversing changes associated with lipid peroxidation.<sup>28,29</sup>



Curcumin also boosts levels of natural antioxidants that diabetes depletes, including **glutathione**, **super-oxide dismutase (SOD)**, and **catalase**—restoring them to normal levels.<sup>30-32</sup> As a result, curcumin helps reduce the amount of oxidized fat molecules in the circulation, which are major contributors to cardiovascular disease.<sup>33</sup> And curcumin's reduction of AGEs in connective tissue helps reduce the chemical cross-linking that adds unwanted stiffness to blood vessels, skin, and other tissues in diabetics.<sup>34</sup>

Brain cells in diabetics are especially vulnerable to oxidative stress and lipid peroxidation because of their lipid-rich cell membranes. Curcumin metabolites prevent brain lipid peroxidation in diabetic rats, potentially protecting brain cells from long-term injury.<sup>35</sup> Acting by a completely different mechanism, curcumin further protects diabetic brain cells by preventing oxidative damage to mitochondria and boosting levels of the energy compound *adenosine triphosphate* (ATP) in brain tissue.<sup>36</sup>

Diabetics undergo acceleration of inflammatory changes in blood vessel walls that produce endothelial dysfunction and ultimately atherosclerosis. Curcumin supplements in animals markedly reduce dangerous markers of inflammation such as *interleukin-6* and *tumor necrosis factor-alpha* (TNF-alpha).<sup>11</sup> And curcumin *reduces* production of inflammatory cytokines in fat tissue itself, helping to lower the overall burden of inflammation and insulin resistance produced by obesity.<sup>19,37</sup>



## Diabetes Epidemic

- The combination of diabetes and obesity—now termed “diabetes” by some experts—is the largest epidemic in human history.
- The harbingers of diabetes can go undetected for years, as conventional medicine focuses on various biomarkers while ignoring the key factor that links obesity and diabetes: **inflammation**.
- Curcumin has been shown to impose an anti-inflammatory blockade across multiple systems ravaged by “diabetes.”
- Curcumin was shown to increase glucose metabolism in the liver while simultaneously reducing expression of glucose-producing genes.
- Curcumin intervenes at nearly every stage in the process of diabetic progress, enhancing liver, kidney, and endothelial function, providing optimal cardiac defense, and boosting levels of primary antioxidants while suppressing pro-inflammatory cytokines generated by fatty tissue.
- Carnitine helps the body burn fat as energy. Formulations of carnitine such as L-carnitine, acetyl-L-carnitine, and propionyl-L-carnitine have been found to help improve insulin sensitivity and blood lipid profiles in individuals with diabetes and pre-diabetes.
- Vitamin E helps reduce oxidative stress and improve insulin action.
- Magnesium is frequently deficient in people with diabetes. Magnesium supplementation has been found to improve insulin sensitivity and promote healthy blood pressure levels.

## Advanced Cardiovascular Defense with Curcumin

The over-oxidized environment in diabetics' blood and tissues puts a huge strain on vascular health. This hyperoxidation is the root cause of diabetics' markedly increased risk of stroke, heart attack, and peripheral vascular disease.<sup>38</sup> Curcumin combats vascular destruction in diabetics in several ways.<sup>39</sup>

Curcumin decreased blood sugar and simultaneously reduced vessel-damaging lipid peroxidation to near normal in diabetic rats.<sup>12</sup> It also normalizes the out-of-control lipid profiles so common in diabetics.<sup>40</sup> Animals fed a high-cholesterol diet that were supplemented with curcumin had a decrease in total cholesterol of **21%** and of harmful low-density lipoprotein (LDL) by **43%**, but an increase in beneficial high-density lipoprotein (HDL) of **50%**!<sup>41</sup>

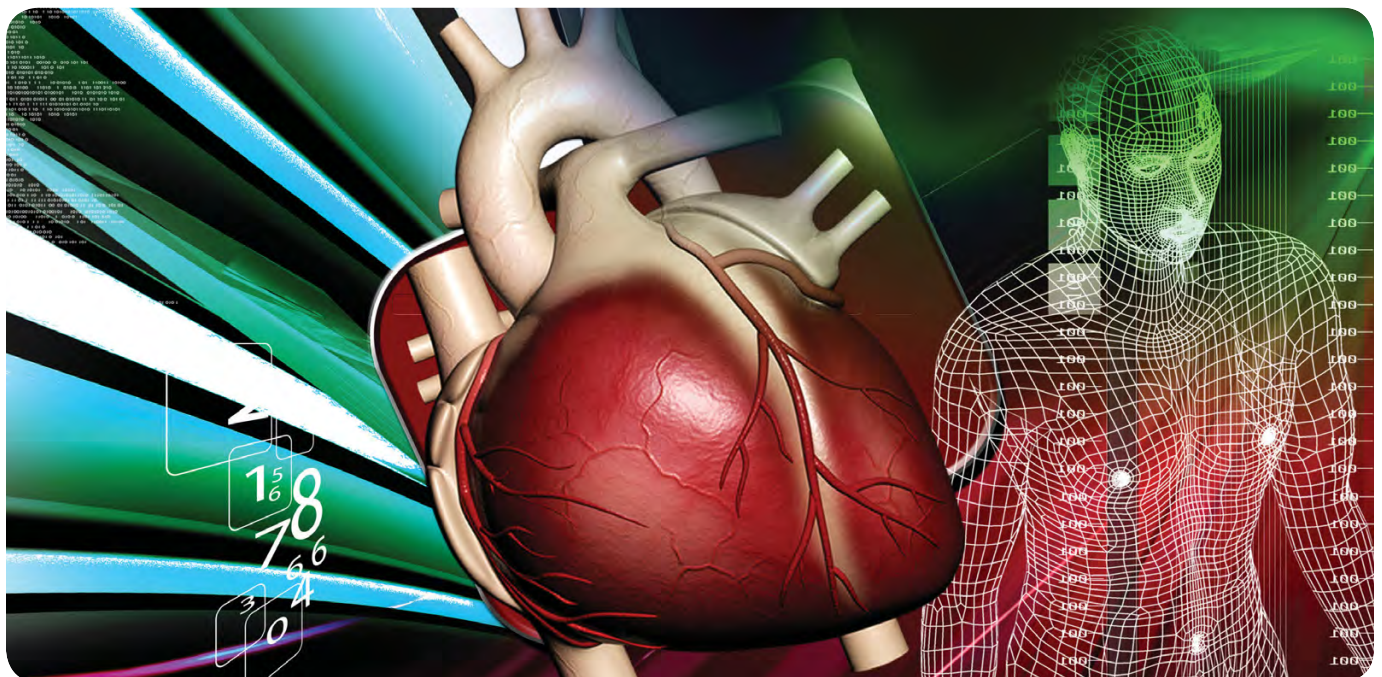
Curcumin exerts direct effects on blood vessels, which are vulnerable to oxidant and inflammatory damage. It can help to restore the vital vascular reactivity needed to control blood pressure and flow.<sup>42</sup> Curcumin supplements in diabetic rats also have beneficial effects on blood vessel tone in heart muscle, and protect small blood vessels in the eye from endothelial dysfunction.<sup>43</sup> In addition, curcumin inhibits platelet aggregation that can contribute to heart attacks and strokes.<sup>44</sup>

In 2008, researchers in India published a landmark human study showing how curcumin improves endothelial function in type 2 diabetics.<sup>45</sup> They tested the supplement head-to-head against the prescription cholesterol-lowering drug *atorvastatin* (Lipitor®) and a placebo. At the end of the study, significant improvement in endothelial function occurred in both the drug and the curcumin supplemented groups to a similar extent, while placebo recipients had no change. At the same time, the supplemented group and the drug-treated group both showed significant reductions in markers of oxidative stress and inflammatory cytokines. This study alone supports routine curcumin supplementation in diabetics, who are at extreme risk for the consequences of endothelial dysfunction.

## Curcumin Provides Kidney and Liver Protection

Diabetes wreaks havoc on vital organs, particularly those with high blood flows such as the kidney and liver. End-stage renal disease (ESRD) is a tremendous cause of suffering and death among diabetics; while

One gram of L-carnitine orally three times daily over 12 weeks significantly lowered fasting blood sugar in middle-aged adults with type 2 diabetes.







*non-alcoholic steatohepatitis* (also called “fatty liver disease”) begins its damaging effects even in early-stage insulin resistance.<sup>46</sup> No *drug* exists to effectively prevent progression of these diabetic complications, but curcumin’s multi-targeted capabilities offer distinct protection.

Dietary curcumin supplements significantly reduced kidney lesions in diabetic laboratory animals and slowed progression of the illness.<sup>47</sup> Treatment with curcumin significantly reduced both kidney dysfunction and oxidative stress in diabetic rats.<sup>48,49</sup> A 2009 study revealed one of the ways it works: curcumin’s powerful anti-inflammatory, gene expression-modulating activities were blocking production of growth factors and other proteins that lead to damaged kidney tissue.<sup>50</sup>

Curcumin prevents dietary-induced fatty liver, prevents activation of the liver inflammatory cells that produce the condition, and can also ameliorate fatty liver caused by alcohol intake in diabetic rats.<sup>46</sup> In a laboratory study, diabetic rats displayed abnormal liver function tests. Curcumin supplementation for 45 days reversed these abnormalities to near normal.<sup>49</sup> This suggests that curcumin may be helpful for people with diabetes, who have a higher incidence of liver function

test abnormalities than people who do not have diabetes.<sup>51</sup> In 2009, it was shown that curcumin achieves these effects by suppressing destructive lipid-handling genes, simultaneously stimulating PPAR-gamma activity to improve liver cells’ energy utilization.<sup>52</sup>

### Curcumin Protects Nerve and Brain Cells

Nerve and brain tissue come under direct attack by high sugar levels in diabetic patients, resulting in severe pain called diabetic neuropathy and in cognitive disturbances ranging from memory loss to severe diabetic encephalopathy and dementia. Curcumin has proven effective in preventing or mitigating both.

Neuropathic pain is recognized as one of the most difficult to treat, and frustrates patients and physicians alike. Indian researchers experimentally induced the condition in diabetic rats, then supplemented them with curcumin.<sup>53</sup> The treatment significantly attenuated excessive painful response to mild stimuli (hyperalgesia). The effects were even more pronounced when supplementation was combined with insulin.<sup>54</sup>

Diabetic encephalopathy is a complex and poorly-understood process of accelerated brain aging and cognitive decline related both to high glucose levels and insulin deficiency in brain tissue.<sup>55,56</sup> Chronic treatment with curcumin reversed the extreme oxidant damage and inflammation in the brains of diabetic rats, and markedly improved their performance on tasks of memory and cognition.<sup>56</sup>

### Carnitine Improves Blood Sugar and Lipids in Diabetes

Carnitine is a small amino acid-derived molecule used by cells to shuttle fats into mitochondria, where they are burned for energy.<sup>57,58</sup> Diabetic tissue, especially cardiac muscle, can accumulate lipids that impair function.<sup>59,60</sup> Both aging and obesity reduce carnitine levels, contributing to mitochondrial aging and loss of metabolic control.<sup>61</sup> That makes carnitine a very appealing supplement for its ability to promote mitochondrial health and fat/sugar utilization before problems arise.<sup>58,62</sup>

Human carnitine studies in diabetes are compelling. Given intravenously to insulin-resistant diabetics, L-carnitine or acetyl-L-carnitine improved insulin sensitivity, glucose uptake and effective utilization from the bloodstream, while improving efficiency of energy utilization.<sup>58,63</sup> One gram of L-carnitine orally three times daily over 12 weeks significantly lowered fasting blood sugar in middle-aged adults with type 2 diabetes.<sup>64</sup>

## Curcumin Directly Blocks Obesity, Consequences

Curcumin offers a host of multi-targeted benefits that fight both the diabetes and the obesity components of diabetes. Late-breaking discoveries now show how curcumin can actually prevent obesity in the first place, and block its consequences even before they arise.

The most remarkable discovery is that curcumin acts as an antagonist to human appetite-promoting receptors.<sup>101</sup> By binding to those receptor sites, curcumin prevents natural molecules from attaching and stimulating appetite. The researchers recognized their breakthrough, suggesting that curcumin "might be developed as novel, nontoxic... therapeutics for obesity."<sup>101</sup>

There's plenty of evidence about how curcumin prevents obesity and its inflammatory consequences in animal studies. Curcumin normalized lipid profiles and insulin sensitivity in non-diabetic hamsters on a high-fat diet, and ramped up liver fat-burning activity.<sup>102</sup> Curcumin also directly inhibits growth of fat cells by reducing their blood supply, resulting in reduced weight gain and body fat in live animal models.

Acting almost like a benign chemotherapy agent, curcumin also blocks growth and maturation of fat cells and even induces apoptosis, the natural cell-death program.<sup>103,104</sup>

With additional discoveries about how curcumin favorably modulates fat-signaling molecules such as adiponectin and leptin that control metabolism and distribution of body fat,<sup>6,105</sup> and reduce fat cell-mediated inflammation,<sup>6,19,37</sup> it's no wonder that experts are hailing curcumin as a breakthrough in obesity prevention.<sup>103</sup>

Because of its unique impact on fat utilization, carnitine is also highly effective at improving diabetics' abnormal lipid profiles, alone or in combination with a statin drug like simvastatin (Zocor®).<sup>65-67</sup> That's big news for diabetics, who must optimize their lipid profiles in order to avoid devastating cardiovascular consequences.

Acetyl-L-carnitine supplements (2 grams daily) safely reduced arterial hypertension, insulin resistance, and impaired glucose tolerance, while boosting levels of the protective fat-produced cytokine adiponectin in non-diabetic patients at risk for developing diabetes.<sup>68</sup> Daily supplementation with 2 grams of L-carnitine reduced levels of dangerous lipoprotein(a) and oxidized LDL in patients with type 2 diabetes.<sup>69,70</sup>

Carnitine's energy-boosting effects are especially important in heart tissue. Long-term oral supplementation with acetyl-L-carnitine preserved vital cardiac nerve function in diabetic patients, whereas placebo-treated subjects suffered significant loss of function.<sup>71</sup> Propionyl-L-carnitine improved cardiovascular function in diabetics undergoing coronary bypass surgery.<sup>72</sup>

Diabetics frequently suffer painful peripheral vascular disease, the narrowing and hardening of blood vessels in the extremities that makes walking difficult and painful. Supplementation with 2-3 grams/day of propionyl-L-carnitine improves symptoms and performance, increasing mean walking distance, measures of blood perfusion, and pain scores.<sup>73,74</sup> One study even showed that patients supplemented with 1,200 mg propionyl-L-carnitine intravenously each day could also reduce doses of their prescription glucose-lowering medications.<sup>75</sup> Erectile dysfunction is a very specific form of peripheral vascular disease common in diabetics, and propionyl-L-carnitine added to drug treatment improved performance in men unresponsive to drug treatment alone.<sup>76-78</sup>

With additional evidence that 1-2 grams acetyl-L-carnitine supplementation daily can mitigate painful diabetic neuropathy, it's clear that carnitine belongs in a responsible anti-diabetic supplement regimen.<sup>79,80</sup>

## Vitamin E and Magnesium Reduce Inflammation, Improve Insulin Sensitivity

Consistent vitamin E supplementation (500-600 mg daily) helps improve vascular function and increases magnesium levels inside cells in type 2 diabetic patients while reducing elevated oxidative





stress markers.<sup>81,82</sup> Vitamin E supplementation with gamma-tocopherol also quenches biomarkers of oxidation and inflammation in patients with metabolic syndrome, potentially preventing progression to full-blown diabetes.<sup>83</sup>

Vitamins E and C together lowered inflammation and improved insulin action in pre-diabetic patients.<sup>84</sup> Even more dramatically, an antioxidant vitamin combination rich in vitamin E (800 mg vitamin E, 500 mg vitamin C, 10 mg beta-carotene) improved insulin sensitivity, reduced dangerous endothelial adhesion molecules, and increased protective adiponectin levels in obese young adults.<sup>85</sup> This late-breaking news is impressive evidence that we can break the cycle of diabetes.

Oral magnesium supplements improve insulin sensitivity and lower hemoglobin A1c levels in type 2 diabetics and in non-diabetic adults.<sup>86,87</sup> A large review of previous studies in 2006 established that oral magnesium supplementation (360 mg/day) can reduce fasting glucose levels and raise beneficial HDL in type 2 diabetic patients.<sup>88</sup> And a 2009 study showed that daily oral magnesium supplementation (450 mg) significantly lowered both systolic and diastolic blood pressure in hypertensive type 2 diabetics who were also taking the ACE inhibitor captopril.<sup>89</sup>

Long term magnesium supplementation (300 mg/day) slowed the development of peripheral neuropathy in type 1 diabetics.<sup>90</sup> A clinically important study in 2008 revealed that depressed elderly diabetic patients with low magnesium levels responded to oral magnesium supplements (450 mg/day) as well as they did to the powerful prescription antidepressant imipramine.<sup>91</sup>

A daily combination supplement including 100-150 mg vitamin E and 200 mg magnesium along with vitamin C and zinc significantly increased HDL in a group of type 2 diabetics.<sup>92,93</sup> And very recently we learned that the combination of vitamin E and magnesium also works together to decrease plasma lipids and blood viscosity (thickness) in diabetic rats, heralding even greater cardiovascular benefits of these essential nutrients.<sup>94</sup>

Antioxidant vitamins and minerals such as vitamin E and magnesium are depleted in diabetes,<sup>95,96</sup> while both nutrients have been shown to improve insulin action.<sup>97,98</sup> At the same time, common lipid-lowering drugs used by diabetics further deplete magnesium levels.<sup>99</sup> Experts are therefore deeply interested in these nutrients as beneficial supplements for diabetics and obese pre-diabetics.<sup>100</sup>

## Summary

The combination of diabetes and obesity—now termed “diabesity” by some experts—is the largest epidemic in human history, estimated to escalate to 380 million victims worldwide by 2025. The harbingers of diabesity can go undetected for years, as conventional medicine focuses on antiquated blood references ranges while ignoring the key factor that links obesity and diabetes: **inflammation**.

Curcumin has been shown to impose an anti-inflammatory blockade across multiple systems ravaged by “diabesity.” Curcumin increases glucose metabolism in the liver, while simultaneously reducing expression of glucose-producing genes. It intervenes at nearly every stage in the process of diabetic progress, enhancing the endothelial and multi-organ function, providing optimal cardiac defense, and boosting levels of primary antioxidants while suppressing pro-inflammatory cytokines generated by fatty tissue.

Carnitine helps promote healthy blood sugar and blood lipid levels, while vitamin E and magnesium improve insulin sensitivity, reduce oxidative stress, and support healthy blood pressure. Together, these nutrients synergize to provide powerful defense against the epidemic of diabesity. ●

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

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# ARE YOU TAKING THE OPTIMAL FORMS OF VITAMIN E?

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

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

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

## **SESAME LIGNANS: The Natural Vitamin E Booster**

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

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

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

## WORLD'S MOST COMPREHENSIVE VITAMIN E FORMULA!

Each softgel of Gamma E Tocopherol with Sesame Lignans provides:

<b>Gamma tocopherol</b>	<b>215.4-244.12 mg</b>
<b>Delta tocopherol</b>	<b>89.75-125.65 mg</b>
<b>Alpha tocopherol</b>	<b>17.95-35.9 mg</b>
<b>Beta tocopherol</b>	<b>0-7.18 mg</b>
<b>Sesame seed (<i>Sesamum indicum</i>) lignan extract</b>	<b>20 mg</b>

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

The retail price for 60 softgels of **Gamma E Tocopherol with Sesame Lignans** is **\$32**. If a member buys four bottles, the price is reduced to only **\$21.75 per bottle**.

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

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Item # 00759

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

Contains soybeans, peanuts, and sesame.

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

# A Multi-Faceted Approach to HEALTHY BODY Weight

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

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

## **Phase 3™ Sucrase Modulator**

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

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

## **Green Tea Phytosome Cellular Energy Enhancer**

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

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



## **The Alpha-Amylase Enzyme**

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

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

## **The Alpha-Glucosidase Enzyme**

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

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

**To order Optimized Irvingia with Phase 3™ Calorie Control Complex, call 1-800-544-4440 or visit [www.LifeExtension.com](http://www.LifeExtension.com)**



### Leptin Sensitivity

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

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

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

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

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

### Optimized Irvingia with Phase 3™ Calorie Control Complex

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

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

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

Contains soybeans, tree nuts, yeast, and corn.

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

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

### Summary of Human Studies with Optimized Irvingia Ingredients

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

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



Item #01492

Directions are to take two capsules before the two heaviest meals of the day. A bottle of **120** capsules of **Optimized Irvingia with Phase 3™** **Calorie Control Complex** retails for \$64. If a member buys four bottles, the price is reduced to **\$45 per bottle**.

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

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

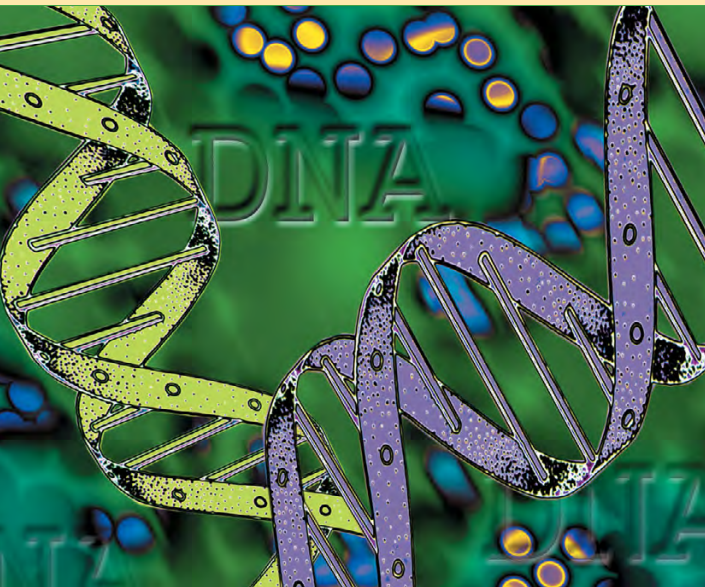
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These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.

# ARM YOUR BODY AGAINST TOXINS



## DNA PROTECTION FORMULA

Each day, our bodies are exposed to **environmental toxins**. Over time, these toxins can overwhelm the body's natural detoxification systems, causing dangerous alterations in genes that regulate cellular proliferation.\*

Fortunately, medical science has documented the ability of certain nutrients to exert powerful health-promoting effects that can significantly bolster the body's natural defenses against chemical assault.\* **DNA Protection Formula** provides standardized potencies of **curcumin**, **chlorophyllin**, **wasabi**, and **broccoli extract**.

The formula's turmeric extract contains bioactive **curcumin** that guards against food-borne and metabolic toxins, helps to maintain healthy liver function, and provides antioxidant protection against cell injury by inhibiting the formation of free radicals and quenching already formed superoxide and hydroxyl radicals.\*

**Chlorophyllin** contained in the formula binds and forms irreversible complexes with certain toxic chemicals, allowing the body to safely eliminate these compounds before they can enter the bloodstream.

**DNA Protection Formula** contains the world's purest, organically grown New Zealand **wasabi** rhizome, a rich source of long-chain methyl isothiocyanates that have been shown to help maintain healthy liver enzymes.

**DNA Protection Formula's** standardized **broccoli extract** contains concentrated levels of glucosinolate and sulforaphane, two bioactive compounds providing the isothiocyanates that are recommended for good health.\*

Each capsule of **DNA Protection Formula** contains:

Turmeric (*Curcuma longa*) root extract . . . . . 300 mg  
[Standardized to 95% Curcuminoids (285 mg)  
containing Curcumin, Demethoxycurcumin,  
and Bis-demethoxycurcumin]  
Chlorophyllin (from sodium copper chlorophyllin) . . . . . 20 mg  
Broccoli (*Brassica oleracea* L.) . . . . . 225 mg  
std. glucosinolate and sulforaphane extract  
(sprout & plant) providing 3H-1, 2-Dithiole-3-Thione  
(D-3T), and Phenylethylisothiocyanate (PEITC)]  
Wasabi (*Wasabia japonica*) powder (rhizome) . . . . . 50 mg  
(providing isothiocyanate equivalence)  
Watercress (*Nasturtium officinale*) . . . . . 100 mg  
4:1 extract (whole herb)

The suggested dosage is one capsule with each heavy meal. A 60-capsule bottle of **DNA Protection Formula** retails for **\$28**. If a Life Extension member orders four bottles, the price is reduced to just **\$18.90 per bottle**.

**CAUTION:** Do not take if you have gallbladder problems or gallstones. If you are taking anti-coagulant or anti-platelet medications, or have a bleeding disorder, consult your healthcare provider before taking this product. Individuals with in-born errors of copper metabolism (e.g. Wilson's disease) should avoid daily, chronic use of this product. Contains rice.



Item #01052

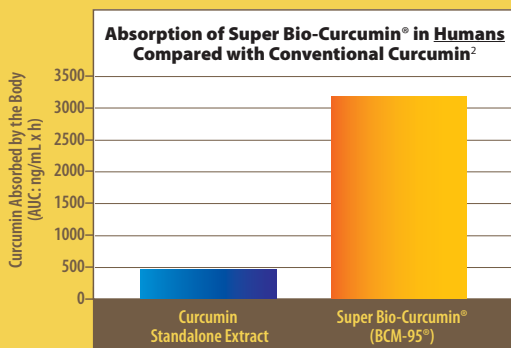
To order the **DNA Protection Formula**,  
call **1-800-544-4440** or visit **www.LifeExtension.com**

\* 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.

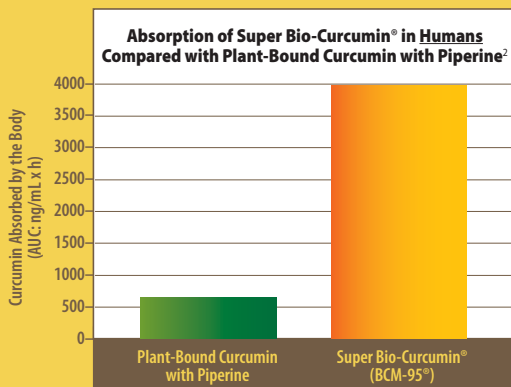


# Achieve Multiple Health Benefits From Highly Absorbable Curcumin

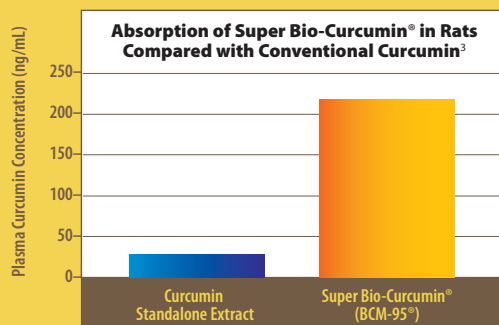
## How Much Curcumin Are You Absorbing?



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



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



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

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

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

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

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

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

## SUPER BIO-CURCUMIN® WITH BCM-95®



ITEM #00407

Life Extension's **Super Bio-Curcumin®** contains the patent-pending BCM-95® turmeric compound. A bottle containing 60 **Super Bio-Curcumin® with BCM-95®** capsules retails for \$30. If a member buys four bottles, the price is reduced to just **\$19.88** per bottle. Each bottle will last most members two months.

### References:

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

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

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

Contains rice.

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





# **Omega-3 Fatty Acids Increase Brain Volume**

## **While *Reversing* Many Aspects of Neurologic Aging**

The cardioprotective power of **omega-3 fatty acids** has been thoroughly documented in clinical literature. Less well known is their paramount role in optimizing many facets of brain function, from depression, cognition, and memory to mental health.

Recent research has opened up a new horizon in our understanding of omega-3s' *profound* ability to halt age-related decline and pathology, shattering the long-held medical belief that brain shrinkage and nerve cell death is progressive and irreversible. Omega-3s have been shown to possess antidepressant and neuroprotective properties. One recent landmark study found that aging humans who consumed more omega-3s had increased gray matter brain volume and that most new tissue development was observed in the part of the brain associated with *happiness*.<sup>1</sup>

Similar findings appeared in the prestigious journal *Lancet*.<sup>2</sup> In one of the largest studies of its kind, scientists analyzing the diets of **12,000** pregnant women found that children of those who consumed the least omega-3 were **48%** more likely to score in the lowest quartile on IQ tests.

In this article, the latest research on these essential fatty acids' importance to the growth, development, and function of the human brain is detailed. You will learn about their intrinsic power to preserve cognition and memory and *reverse* age-related loss of brain function. You will also discover exciting findings on their unique capacity to *combat* multiple forms of mental illness, neuropsychiatric disorders, and aberrant behavior, from **Alzheimer's disease** and **aggression** to **bipolar disorder** and **depression**. > >



### Key Nutrient from the Cradle to the Grave

Approximately 8% of the brain's weight is comprised of omega-3 fatty acids<sup>3</sup>—the building block for an estimated 100 billion neurons.<sup>4</sup> Docosahexaenoic acid (DHA) and eicosapentaenoic acid (EPA) play a host of vital roles in neuronal structure and function, protecting them from oxidative damage, inflammation, and the cumulative destruction inflicted by other chronic insults.<sup>5,6</sup>

Embedded in the omega-3-rich neuronal membrane are numerous proteins and complex molecules required for electrochemical transmission and signal reception.<sup>4</sup> Scientists have recently shown that the precise balance of fatty acids in brain cells helps determine whether a given nerve cell will be protected against injury or inflammation, or whether it will instead succumb to the injury.<sup>7</sup>

Omega-3s accumulate in the human brain during fetal development. The amount of the omega-3 DHA has been closely tied to intelligence and cognitive performance in infancy and childhood.<sup>8</sup> But the omega-3 content of brain cell membranes involved in essential memory-processing areas *diminishes* with advancing age and in certain chronic brain disorders.<sup>9</sup>

These findings have led scientists to suspect a role for omega-3 deterioration in development of typical age-related cognitive decline such as that seen in Alzheimer's and chronic disease.<sup>10</sup>

Early developmental deficits in brain content of omega-3s have been associated with poor brain maturation and neurocognitive dysfunction.<sup>11</sup> These are manifested especially in the area of attention, increasing the risk for attention-deficit/hyperactivity disorder (ADHD) and other behavioral disturbances.<sup>8</sup> Later in life, declining levels of DHA and EPA may contribute to development of aggression, anxiety, depression, schizophrenia, dementia, and a variety of other mental health and even criminal conditions.<sup>12-17</sup>

Scientists are having great success at *reversing* many of the fundamental age-related decreases in brain function correlated with omega-3 deficiency.<sup>10</sup> ADHD and related conditions can be prevented or mitigated by supplementing infants and nursing mothers with DHA.<sup>8,18</sup> Young rats supplemented with DHA show increased *plasticity*, or flexibility of function, in their developing brain cells, with highly invigorated development of synapses, the electrochemical junctions where nerve signals are relayed.<sup>9</sup> In aged rats, omega-3 supplementation *reverses* age-related



neuronal changes and maintains learning and memory performance that arise from powerful antioxidant and anti-inflammatory effects.<sup>9</sup>

A remarkable animal study has just revealed that omega-3 fatty acids halt the age-related loss of brain cell receptors vital to memory production, and show potential for increasing neuronal growth.<sup>19</sup>

### A Natural Crime Fighter?

Recent findings suggest that some criminal and aggressive behaviors are closely correlated with low serum omega-3 levels, which are linked to lower levels of altruism, honesty, and self-discipline.<sup>13</sup> These effects may be related to alterations in serotonin turnover, which controls impulsivity and aggression-hostility behaviors.<sup>13</sup>

There's solid data indicating that optimal omega-3 intake at all ages is a promising avenue for *subduing* aggression and hostility.<sup>20,21</sup> For example, 1.5 grams of omega-3 supplementation (containing **840 mg EPA** and **700 mg of DHA**) in autistic children with severe tantrums, aggression, or self-injurious behavior produced significant improvements compared with placebo, without adverse effects.<sup>22</sup> And stressed but otherwise healthy volunteers given 1,500 mg/day of DHA reported a significantly improved rate of stress reduction compared to a no-treatment group, suggesting an *adaptogenic* role for omega-3s (adaptogens help the body respond to imposed stress in a variety of ways).<sup>23</sup>

In a group of substance abusers, supplementation with 2,225 mg EPA and 500 mg DHA for 3 months produced significant decreases in anger and anxiety scores compared to placebo recipients.<sup>16</sup> Amazingly, the two nutrients complemented each other, with EPA increases being most robustly associated with lowered anxiety scores, and DHA increases with lowered anger scores. Similarly, in young adult prison inmates, multi-supplements featuring omega-3s produced significant reductions in antisocial, violent, aggressive, and transgressive (rule-breaking) behavior.<sup>24,25</sup>

### More Potent than Prozac®

Large epidemiological studies repeatedly demonstrate that depressed people have significantly reduced levels of DHA and EPA in red blood cell membranes or serum.<sup>26,27</sup> One autopsy study revealed lower amount of omega-3s in the brains of those who'd suffered depression compared to those who did not.<sup>28</sup> Low omega-3 status is frequently found in people who have attempted or committed suicide.<sup>29-31</sup> In fact, seasonal variations in blood levels of omega-3s have been

## Reverse Brain Aging

- Lipids comprise a significant portion of the brain. Of these lipids, omega-3 fatty acids are particularly important.
- Omega-3 fatty acids exert profound anti-aging effects on brain structure and function, from cognition and memory to mental health and Alzheimer's prevention.
- They have recently been associated with increased volume of the brain's gray matter, especially in those regions associated with happiness, and they boost intelligence through enhanced function from birth onwards.
- They support brain cell structure, increase the production of vital neurotransmitters, and blunt oxidative and inflammatory damage.
- Ranges of **1,000-3,000 mg** of **EPA** and **1,000-1,500 mg** of **DHA** have been shown to yield significant improvements in symptoms of depression, aggression, and other mental disorders, as well as protection against early cognitive decline and even early Alzheimer's disease.



shown to closely parallel similar variations in violent suicide deaths.<sup>7</sup> Patients with deficient omega-3 status also had reduced expression of the vital transporter complex responsible for moving **serotonin** at nerve cell junctions.<sup>7</sup>

In fact, the serotonin-related benefits of omega-3 supplementation are powerful enough to stand up to a head-to-head comparison with fluoxetine (Prozac®), a common and highly effective member of the selective serotonin reuptake inhibitor (SSRI) category of modern antidepressants.<sup>32</sup> In that study, 50% of sub-

jects responded well to fluoxetine alone, **56%** to EPA supplementation (**1,000 mg**), and an impressive **81%** in people who took both forms of treatment.<sup>32</sup>

At doses above 2,000 mg, results are uniformly dramatic. Double-blind, placebo-controlled trials are revealing substantial superiority of omega-3 therapy to placebo, using standard depression assessment scales.<sup>33</sup> Numerous other studies are further validating these dramatic effects on depression in a host of other contexts: depressive symptoms were alleviated in patients with Parkinson's disease, and in

pregnant women with major depressive disorder.<sup>34,35</sup> A particularly powerful effect was shown in middle-aged women experiencing psychological distress and depressive symptoms during the menopausal transition.<sup>36</sup>

In one Israeli study, omega-3 supplementation in children

with major depression provided significant improvement across all indices of measurement.<sup>37</sup>

People who get more omega-3s actually have bigger, more functional brains.



### A Novel Intervention for Bipolar Disorder

Bipolar disorder, formerly known as manic-depression, continues to be a perplexing condition for psychiatrists. In bipolar disorder, patients may “cycle” between periods of profound depression and periods of elation and excessive activity (mania). But some cycle rapidly, and others more slowly, while some patients who meet criteria for the conditions have little or no manic component at all.

As with depression, cell membrane deficiencies in omega-3s are associated with bipolar disorder, and people with higher seafood intakes appear to be relatively protected against bipolar symptoms.<sup>38,39</sup> An autopsy study of the brains of people with bipolar disorder revealed significant deficits in DHA content of brain cell membranes, with concomitant elevations of inflammatory products that would have been suppressed by normal levels of omega-3s.<sup>40</sup>

Omega-3 fatty acids are showing encouraging results in treating some patients with bipolar disorder. In one study, patients supplemented with 9,600 mg omega-3 fatty acids daily showed significantly longer periods of remission than did placebo recipients, and the treatment was well-tolerated.<sup>41</sup> A study using MRI scanning revealed profoundly favorable cell membrane alterations in brain tissue induced by very high dose omega-3 supplementation (approximately 9,700 mg daily).<sup>42</sup> In general omega-3s appear





Laboratory and animal studies shed light on these observations, suggesting that omega-3 treatment and supplementation may enhance brain function through increased production of the membrane-rich *neurites* required for new synapse formation.<sup>57,58</sup> Other protective and cognition-enhancing effects include improved neuronal cell membrane characteristics resulting in enhanced neurotransmission, increased synaptic release of vital neurotransmitters such as serotonin, and neuroprotection from inflammation and oxidant-related damage including those induced by antipsychotic medications.<sup>51,53,59</sup> DHA is also protective against several risk factors for dementia including head trauma, diabetes, and cardiovascular disease.<sup>51</sup>

In healthy adults, increased omega-3 intake is positively associated with greater brain volume in regions associ-

ated with emotional arousal and regulation of behavior. People who get more omega-3s have bigger, more functional brains.<sup>1</sup> A 2009 study found that omega-3-supplemented adults made fewer risk-averse decisions, but did not show increased impulsiveness.<sup>60</sup>

to be more successful at managing the depressive phases of bipolar disorder than the manic phases,<sup>25,43-46</sup> a feature they share with many prescription medications. Several small studies demonstrated that supplementation could also reduce the frequency of manic episodes. One dramatic example is a 2009 study of children with bipolar disorder, in which both manic and depressive symptoms were significantly mitigated by combined DHA (1,560 mg daily) and EPA (360 mg daily) supplementation for 6 weeks, according to clinician ratings as well as parent ratings.<sup>47</sup>

Most studies showing the greatest effectiveness in bipolar disorder involve combinations of DHA and EPA.<sup>48</sup> And as we saw with depression, higher daily doses, on the order of **1,000-1,500 mg of DHA** and up to **2,000-3,000 mg of EPA**, are optimal for bipolar management.<sup>49</sup>

### Cognitive Decline and Alzheimer's Disease

Omega-3 intake is strongly associated with many different measures of cognition and memory in numerous epidemiological studies, and there's compelling evidence for potent neuroprotection over long time periods.<sup>5,50-52</sup> Insufficient omega-3 intake is strongly correlated with diminished adaptability of brain synapses and impaired learning and memory.<sup>53</sup> People with lower omega-3 levels may be more likely to suffer from a host of cognitive impairments including dyslexia, ADHD, and cognitive decline.<sup>54-56</sup>





In other words, the omega-3 group appeared better able to take appropriate risks in problem-solving, without dangerous impulsivity—skills that are especially relevant in people with depression, who often withdraw and become fearful of even everyday risk taking.

Alzheimer's disease remains one of the most intransigent of age-related neuropathologies. Oxidative damage and inflammation underlie the progressive loss of memory and disorientation that typify the disease, resulting in the term “inflammaging” to describe the complex events that lead to clinically important symptoms.<sup>61,62</sup> Omega-3s have been shown to favorably *alter* some of the characteristic changes associated with the disease.

DHA (1,700 mg daily combined with 600 mg EPA) in Alzheimer's patients significantly reduced levels of inflammatory cytokines circulating in their blood, suggesting that some of the brain tissue inflammation might be mitigated.<sup>63,64</sup> Omega-3 supplementation, again with 1,700 mg DHA and 600 mg EPA, in Alzheimer's patients with mild-to-moderate disease improved appetite and produced significant beneficial increases in body weight after 6 and 12 months of treatment, while placebo patients showed no change in weight.<sup>65</sup> These findings have led to calls by experts for increased use of omega-3s as a preventive strategy—calls made all the more urgent by the

observation that supplementation is most effective in slowing or *reversing* mild Alzheimer's disease and early age-related cognitive decline.<sup>66-69</sup>

The molecular basis for this early intervention strategy lies in the cellular pathology at the core of Alzheimer's: omega-3 treatment of cultured brain cells suppresses many of the early signs of damage triggered by the inflammatory Alzheimer's protein known as beta-amyloid.<sup>70</sup> And animal studies suggest that oral supplementation with DHA may enhance the formation of new synapses and their vital dendritic spines, all of which can improve cognitive function.<sup>58</sup> In fact, learning and memory in animal models of Alzheimer's are improved by DHA supplementation, and in humans fewer learning errors were made by people with age-related cognitive decline after six months on DHA (900 mg daily).<sup>66</sup>

## Summary

An estimated 8% of brain matter is composed of omega-3s. Omega-3 fatty acids exert profound anti-aging effects on brain structure and function, from cognition and memory to mental health and Alzheimer's prevention. They have recently been associated with increased volume of the brain's gray matter, especially in those regions associated with happiness, and they also boost intelligence through



enhanced function from birth onwards. They support brain cell structure, increase the production of vital neurotransmitters and blunt oxidative and inflammatory damage. Ranges of **1,000-3,000 mg of EPA** and **1,000-1,500 mg of DHA** have been shown to yield significant improvements in symptoms of depression, aggression, and other mental disorders, as well as protection against early cognitive decline and even early Alzheimer's disease. ●

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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# Life Extension Mix™

## Tablets, Capsules, or Powder...Your Choice!

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

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

Life Extension Mix™ is available in tablet, capsule, and powder forms, with or without copper, and with or without extra niacin. To view the comprehensive Life Extension Mix™ formula log on to [www.LifeExtension.com/MixBreakdown](http://www.LifeExtension.com/MixBreakdown)



Item #  
01455

### LIFE EXTENSION MIX™ 315 TABLETS

	RETAIL PRICE EACH BOTTLE	MEMBER PRICE EACH BOTTLE
1 BOTTLE	\$98	<b>\$73.50</b>
4 BOTTLES	\$86	<b>\$64.50</b>
10 BOTTLES	\$69.50	<b>\$52.13</b>

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

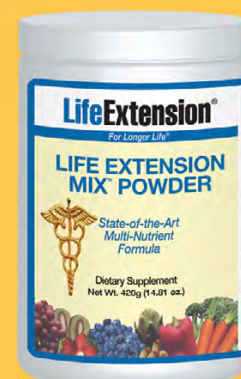


Item #  
01454

### LIFE EXTENSION MIX™ 490 CAPSULES

	RETAIL PRICE EACH BOTTLE	MEMBER PRICE EACH BOTTLE
1 BOTTLE	\$110	<b>\$82.50</b>
4 BOTTLES	\$98	<b>\$73.50</b>
10 BOTTLES	\$85	<b>\$63.75</b>

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



Item #  
01456

### LIFE EXTENSION MIX™ 14.81 Oz POWDER

	RETAIL PRICE EACH BOTTLE	MEMBER PRICE EACH BOTTLE
1 BOTTLE	\$98	<b>\$73.50</b>
4 BOTTLES	\$86	<b>\$64.50</b>
10 BOTTLES	\$72	<b>\$54</b>

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

**To order your supply of LIFE EXTENSION MIX™,  
call 1-800-544-4440 or visit [www.LifeExtension.com](http://www.LifeExtension.com)**

Contains fish (tilapia), soybeans, tree nuts (cocoa beans), yeast, corn, and sesame.

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.





# Heart Healthy **SUPER** **Omega**

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

### ***A Comprehensive Essential Fatty Acid Formula***

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

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

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

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

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

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

### ***Higher Potency Standardized Olive Fruit***

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

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

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

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

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

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# ga-3

## EPA/DHA

Two softgels should be taken twice daily with meals. A bottle of 120 softgels of **SUPER OMEGA-3 EPA/DHA with Sesame Lignans and Olive Fruit Extract** retails for \$32. If a member buys four bottles, the price is reduced to **\$21 per bottle**. If **10 bottles** are purchased, the price per bottle is reduced to only **\$18.68**. Item# 01482

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

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

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

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

### Upgraded Formula!

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

**EPA Pure+™ Extract** .....1400 mg  
(eicosapentaenoic acid)

**DHA Pure+™ Extract** ..... 1000 mg  
(docosahexaenoic acid)

**Olive Fruit Extract** ..... 600 mg  
[standardized to 1.5% hydroxytyrosol (9 mg),  
0.7% oleuropein (4.2 mg), 0.5% verbascoside  
(3 mg) and 0.23% tyrosol (1.4 mg)]

**Sesame seed lignan extract** .....20 mg



Item #01482

Item #01484







## PROTECT YOUR DNA from CT Scans and X-rays

Research Supports Nutrient Shields Against Ionizing Radiation

In hospitals and doctors' offices around the country, millions of innocent patients are unknowingly exposed to excessive radiation. The main culprit is the computed tomography (CT) scan which exposes patients to the equivalent amount of radiation received by atomic bomb survivors in the low-dose range.<sup>1</sup>

Published scientific studies document that these excessive amounts of radiation will result in catastrophic numbers of new cancers due to DNA mutation.<sup>1-3</sup> Epidemiologists estimate that as many as 29,000 new cancers could be related to CT scans performed in the US in 2007 alone.<sup>2</sup> There are now approximately *70 million* CT scans performed every year, up from a mere 3 million in 1980.<sup>4,5</sup>

As if this were not bad enough, shocking revelations in the *New York Times* and scientific publications last year exposed frightening inattention to the risks of X-ray equipment, specifically computed tomography (CT) scanners.<sup>6-8</sup> In one case, more than 200 older adults received up to **8 times** the normal radiation dose during brain scans.<sup>6</sup> In another, a 2-year-old boy was left with visible skin changes and a significant probability of cataracts within a few years, following lengthy over-exposure.<sup>6</sup>

While CT scans provide important diagnostic information that can save lives, their growing frequency is putting an enormous population at risk for a range of lethal cancers. Most likely everyone reading this article will have one or more CT scans in the coming years. Fortunately, new research shows that a number of readily available antioxidant nutrients and herbs can offer levels of protection against the dangers of ionizing radiation found in X-rays and CT scans.

What follows is an analysis of recent studies showing how certain remarkable nutrients can ward off many dangers associated with medical-based diagnostic radiation exposure. > >



## Antioxidant Protect Against Radiation

Ionizing radiation (principally X-rays and gamma rays), when it interacts with living tissue, releases massive amounts of reactive oxygen and nitrogen species.<sup>9</sup>

The pathological result is free radical damage to vulnerable DNA strands.<sup>10</sup> When DNA genes that regulate cellular proliferation are damaged, the result can be cancer formation.

By interrupting oxidant processes, one can reduce the risk of radiation-induced cancers.<sup>11,12</sup> Overlooked by most physicians and radiologists is the role of nutritional supplements in providing impressive protection from ionizing radiation.<sup>11,13</sup>

If your physician orders a CT scan, X-ray, or other diagnostic procedure involving radiation, optimize your dosing of antioxidant supplements as soon as you are scheduled. There are several classes of nutrients that have been studied for their radioprotective capabilities. In this article we will examine vitamins, trace minerals, polyphenols, and various plant extracts as a way to shield yourself from the dangers of medical radiation diagnostics.

## Polyphenols

Polyphenols are versatile molecules found in plant products. Research has shown that they provide a multitude of key protective benefits, including modifying gene expression that protects tissues from ionizing radiation. Collectively, polyphenols offer important protection from some of radiation's impact on the body.<sup>14,15</sup>

Resveratrol, quercetin, and green tea polyphenols rank among the best-studied and most potent radioprotectants in this class. Resveratrol is both radioprotective in healthy tissue and also has antitumor activity.<sup>16-18</sup> Resveratrol protects mouse chromosomes from radiation-induced damage.<sup>19</sup> Its antioxidant properties prevent radiation toxicity to the liver and small intestines, two tissues most immediately sensitive to radiation's ill effects.<sup>20</sup>

Quercetin and its related compounds protect lipids and proteins from otherwise-lethal doses of gamma radiation, again largely through their antioxidant properties.<sup>21</sup> Quercetin and other polyphenols not only provide chromosomal radioprotection, but also shield mitochondrial DNA from radiation-induced oxidant damage.<sup>22</sup> Quercetin also ameliorates biochemical changes in human white blood cells following radiation exposure.<sup>23</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>24</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 CT doses.<sup>25,26</sup>

## Soy Components

Soybeans contain a wealth of health-promoting substances, several of which have remarkable radioprotective effects. Genistein, an isoflavone, can protect mice from ionizing radiation injury after a single



dose.<sup>27</sup> One mechanism is its protection against radiation-induced lipid peroxidation which disrupts cell membranes and structures.<sup>28</sup> Genistein also stimulates production of red and white blood cells following whole-body radiation, again after as little as a single dose.<sup>29,30</sup> That's vital, because rapidly-reproducing blood stem cells in bone marrow are among the most vulnerable to radiation's killing 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>31</sup>

Soybeans also contain a radioprotective enzyme inhibitor known as the *Bowman-Birk Inhibitor* (BBI).<sup>32</sup> BBI activates genes involved in DNA repair, making it among the most valuable compounds for late (or even post-exposure) treatment of radiation toxicity.<sup>33,34</sup> In typical multitargeted fashion, BBI also stabilizes enzymes that would otherwise produce radiation-induced arrest of skin cell growth.<sup>35</sup> Remarkably, BBI enhances survival of healthy cells, but not diseased cells, following radiation exposure.<sup>36,37</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>38,39</sup>

### Herb, Spice, and Other Plant Extracts

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

Curcumin, from turmeric and other south Asian spices, has powerful radioprotective effects as a result of its antioxidant-modifying and gene expression-modifying characteristics.<sup>40</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>41,42</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>43</sup> The result is increased survival in animals exposed to high-dose radiation.<sup>44</sup>

Together, garlic and ginger offer surprising radioprotection. Garlic's high sulfur content supports natural antioxidant systems like glutathione.<sup>45</sup> Garlic extracts protect red blood cells from radiation damage by a glutathione-related mechanism.<sup>46</sup> In mice, garlic extracts prevented radiation damage to chromosomes in vulnerable bone marrow cells.<sup>47</sup> By a different mechanism (think multitargeting), garlic extracts downregulate X-ray-mediated increases in the inflammatory NF-kappaB system.<sup>48</sup> Ginger extracts boost



What You Need to Know

### CT Scans and X-rays

- Radiation exposure from CT scans is vastly higher and more dangerous than most people realize.
- As many as 29,000 cancers are caused each year as a result of CT and other radiology scans.
- Radiation kills by producing oxygen free radicals that damage DNA and other structures.
- A wide variety of common antioxidant nutrients can offer substantial protection against the risks of radiation-induced cancer and other health threats.
- Never undergo a radiology study without understanding if it's truly necessary—if it is, then follow suggestions in this article for optimizing your radioprotection.

glutathione activity and reduce lipid peroxidation by a separate and complementary mechanism.<sup>49</sup> The extracts directly scavenge a host of free oxygen and nitrogen radicals immediately following their formation by radiation.<sup>50-52</sup>

*Ginkgo biloba* reduces “clastogenic” factors—DNA damage artifacts in the blood of people and animals exposed to radiation.<sup>53,54</sup> Astonishingly, this effect is so powerful that it proved useful in treating workers at the Chernobyl nuclear plant long *after* their exposure.<sup>55</sup> More recently, ginkgo extracts proved to protect animals’ organs from direct radiation-induced damage, and humans from cell damage following radioactive iodine treatment.<sup>56,57</sup>

Ginseng is another plant important in traditional medicine that has remarkable radioprotective effects.<sup>58,59</sup> A variety of ginseng extracts protect against radiation-induced DNA damage.<sup>60-62</sup> It protects hair follicles and other rapidly-reproducing (but healthy) tissues from damage by radiation.<sup>63,64</sup> Its antioxidant effects have resulted in protection of a variety of radiation-sensitive tissues, including cells in the bone marrow, spleen, and testicles.<sup>58,65</sup> Ginseng’s immunomodulatory effects make it especially useful in defending the body against the ravages of radiation injury.<sup>66</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>67</sup> That makes it of great interest to defense and national security researchers.

Silymarin, a milk thistle extract, is well known to protect liver cells from chemical toxins. Not surprisingly, then, silymarin has been found to protect liver tissue from radiation damage as well.<sup>68,69</sup> It reduces DNA damage and extends survival in animals exposed to dangerous levels of radiation.<sup>70</sup> Silymarin’s free radical scavenging and direct antioxidant effects are credited with producing these results.<sup>71</sup>

### N-Acetyl Cysteine (NAC)

N-acetyl cysteine (NAC) is a sulfur-containing compound that powerfully supports natural intracellular antioxidant systems, particularly glutathione. That makes it an effective radioprotective agent.<sup>72</sup> NAC attenuates liver damage from radiation in mice, reducing oxidant damage and resultant DNA damage—both before and even after radiation exposure.<sup>73,74</sup> By a separate mechanism (multitargeting again), NAC stimulates release of cytokines known to protect bone marrow against radiation injury.<sup>75</sup> And NAC protects bone marrow cells from radiation as well, largely by preventing DNA damage.<sup>76,77</sup> A multi-supplement 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>78</sup> Remarkably, the effect was the same whether the supplement was given before or after the exposure.

### S-adenosylmethionine (SAdMe)

S-adenosylmethionine (SAdMe) is a powerful methyl group donor that’s essential for keeping up cellular levels of the vital antioxidant glutathione.<sup>79,80</sup> Enzymes vital for DNA repair (and hence cancer protection) can’t function properly in the absence of methyl donors such as SAdMe.<sup>81</sup> In early 2010 we learned that ionizing radiation actually suppresses SAdMe levels in animal models.<sup>82</sup> Increasing the animals’ SAdMe levels, on the other hand, minimized DNA damage from ionizing radiation.<sup>82</sup>

### Vitamins and Trace Minerals

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 protect airline pilots from radiation-induced chromosomal damage,<sup>83</sup> an occupational hazard in those who work at high altitudes. In fact, ACE





supplements have been proposed as “space foods” to protect astronauts from high radiation levels.<sup>84</sup>

Beta-carotene, the precursor of vitamin A was first used clinically in the wake of the Chernobyl nuclear accident in treatment of children from the region. Supplementation reduced the amount of radiation-induced oxidized lipids.<sup>85</sup> More controlled animal studies showed that vitamin A could reverse radiation-induced gene expression abnormalities that could lead to cancer.<sup>86-88</sup> Other studies show that vitamin A ameliorates other radiation effects and enhances death of cancerous cells.<sup>89</sup> Still other studies reveal that vitamin A can actually prevent radiation-induced death of healthy cells.<sup>90</sup>

Vitamin C, together with natural antioxidant systems such as glutathione, helps protect DNA and chromosomes from oxidative damage.<sup>91-93</sup> Vitamin C

Like vitamin C, vitamin E stabilizes free radicals once they form, reducing their toxicity, an effect vital in radioprotection.<sup>7</sup> Importantly, vitamin E enhances the growth-inhibiting effect of radiation on cancer tissue while simultaneously protecting normal cells.<sup>96</sup> Animal studies show that vitamin E significantly protects mice from dying after exposure to otherwise lethal levels of gamma rays.<sup>97</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>97,98</sup>

A remarkable study among X-ray technicians reveals just how powerful antioxidant vitamins can be. Radiology techs 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 in red blood cells) rose significantly.<sup>99</sup>

Like vitamin C, vitamin E stabilizes free radicals once they form, reducing their toxicity, an effect vital in radioprotection.

also inhibits radiation-induced death of human blood cells.<sup>94</sup> Remarkably, vitamin C can counteract radiation-induced “long-lived radicals” (LLRs) that destabilize chromosomes and induce cancerous mutations.<sup>95</sup> The ability to counter both classical radicals and LLRs may be vital in preventing genetic damage from radiation.<sup>95</sup>

### Trace Minerals

Our endogenous antioxidant systems such as superoxide dismutase, catalase, and glutathione peroxidase all depend on trace minerals as cofactors for their function. That makes those minerals, especially



zinc and manganese, vitally important for sustaining whole-body resistance to ionizing radiation. Zinc supplements protected rats from oxidant damage to their red blood cells induced by radioactive iodine.<sup>100,101</sup> And a zinc supplement protected bone marrow, but not tumor cells, from radiation-induced damage.<sup>102</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>103</sup>

## Other Potent Radioprotective Nutrients

As we've noted, most nutrients with powerful antioxidant activity can be expected to help protect us against radiation exposure from CT scans.<sup>104</sup> In addition to those we've discussed, there's good evidence for radioprotection by spirulina extracts, which protect bone marrow cells from DNA damage.<sup>105</sup> Melatonin also protects dividing cells and circulating blood cells from chromosomal injury by radiation.<sup>106,107</sup> Licorice extracts block DNA damage and protect lipids from radiation-induced peroxidation.<sup>108</sup> The Indian gooseberry (*Emblica officianalis*) increases survival time and reduces mortality of mice exposed to whole-body radiation.<sup>109</sup> Effects include protection against lipid peroxidation and protection of rapidly-dividing cells in the intestine.<sup>110</sup> Carnosic acid and other rosemary extracts protect against DNA damage through their antioxidant activity, both before and after radiation exposure.<sup>111</sup>

## Summary and Suggestions

Radiation from "routine" diagnostic studies, especially CT scans, poses a substantial and largely unrecognized threat to our health. But radiation damage primarily stems from free radical formation. That means we can protect ourselves powerfully with antioxidant nutrients. Naturally, you should already be using a comprehensive antioxidant regimen for health maintenance. But should you find yourself (or a loved one) in line for a CT scan, X-ray, or other high-radiation procedures, consider the following suggestions as soon as you learn you'll undergo the test:

- Choose an excellent, high-potency supplement containing polyphenols such as resveratrol and quercetin.
- Include a green tea supplement high in EGCG at the top of the recommended dose range.
- Take a soy supplement rich in genistein. To ensure that you are getting adequate amounts of protective BBI protein, add several cups of soy-milk to your daily intake prior to the test.
- Consider at least curcumin, ginseng, and ginkgo extracts prior to the test, at the upper end of the recommended doses.
- Adding a daily dose of NAC (total 1,800 mg) is likely to be very helpful.
- Consider utilizing SAME (1,200 mg) to optimize DNA protection.



- Optimize your doses of antioxidant vitamins A, C, and E. Use the upper end of Life Extension's recommended doses. Remember that prolonged high-dose vitamin A can be dangerous, so be sure to check with your physician.
- Begin a good oral zinc supplement if you aren't already using one.
- ALWAYS be sure to maximize your hydration prior to a radiation study, especially when taking sulfur-containing supplements such as NAC.
- Minimize your exposure to other oxidant-inducing stresses such as tobacco smoke and alcohol. Immediately refrain from either as soon as you learn you'll undergo the study.

No one wants to take unnecessary risks with their health—ask your doctor if a planned test is truly the only way to get desired diagnostic information. But these steps can offer significant protection in the event that such a study is truly unavoidable. ●

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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# Ultra Natural Prostate FORMULA

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

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

Included in the formula is a standardized European pumpkin seed oil extract rich in **delta-7 sterols** and **fatty acids** to support a healthy prostate.<sup>1</sup> A supercritical CO<sub>2</sub> extraction technology supplies optimal amounts of these key phytonutrients to *complement* the fatty acid composition of saw palmetto. It is sourced from a unique variety of pumpkin cultivated specifically to yield **higher ratios** of these compounds than pumpkins grown for commercial use.

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

- **Saw palmetto extract.** A number of normal biological events in aging men affect the prostate gland. Saw palmetto has been shown to interfere with DHT activity in the prostate, inhibit alpha-adrenergic receptor activity (to support normal urinary flow), and help control inflammatory actions in the prostate gland.<sup>2-4</sup> A novel DeepExtract™ extraction technology ensures the most desirable and complete profile of saw palmetto available.
- **HMRLignan™** Norway spruce and **ActiFlax™** flax lignan extracts. Standardized *lignans* from Norway spruce and flax seeds convert to **enterolactone** that is then absorbed into the bloodstream where it provides significant biological effects. **Enterolactone** has demonstrated anti-estrogen and anti-DHT effects that are of particular importance for the aging prostate gland.<sup>5-7</sup>
- **5-LOXIN® boswellia extract.** Published studies show that normal aging and poor diet cause levels of a dangerous enzyme (*5-lipoxygenase*) to increase, which can affect prostate cells. 5-LOXIN® is a patented extract from the boswellia plant that has been shown to suppress *5-lipoxygenase* in addition to other pro-inflammatory factors.<sup>8-10</sup>

Now with More Potent  
Saw Palmetto and Pumpkin  
Seed Oil Extracts



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- **Nettle root extract** (*Urtica dioica*). Testosterone converts to estrogen at higher rates as men age. Prostate cells are sensitive to estrogen's growth stimulatory effects. Nettle root helps support prostate cells against excess estrogen levels.<sup>11</sup>
- **Pygeum**. Normal aging results in levels of certain prostaglandins increasing in the prostate gland. *Pygeum africanum* extract helps suppress these prostaglandins, keeping the prostate gland placid and promoting prostate comfort.<sup>12</sup>
- **Beta-sitosterol**. The most biologically active constituent of pygeum is beta-sitosterol. Beta-sitosterol from other plant sources is also included in this prostate support formula.<sup>13</sup>
- **Cernitin**®. This European pollen extract has been shown to relax smooth muscle tone of the urethra, counteract DHT, and help regulate inflammatory reactions.<sup>14-17</sup>
- **Boron**. In addition to helping protect bones, this mineral has been shown to slow elevation of prostate-specific antigen (PSA)—a benefit seeming to occur as a result of boron's positive effect on the presence of protein-degrading enzymes in the prostate gland.<sup>18,19</sup>
- **Lycopene**. This carotenoid, associated with the tomato's red color, helps maintain healthy DNA gene function in prostate cells.<sup>20-24</sup>

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

<b>USPlus® Saw Palmetto</b> (C <sub>0</sub> 2 DeepExtract™)	<b>320 mg</b>
<b>Cernitin®</b>	<b>252 mg</b>
<b>5-LOXIN®</b>	<b>70 mg</b>
<b>Pumpkin seed oil</b> ( <i>Cucurbita pepo</i> ) <b>extract</b> (standardized to 85% total fatty acids)	<b>200 mg</b>
<b>Stinging nettle root extract</b> ( <i>Urtica dioica</i> )	<b>240 mg</b>
<b>Pygeum extract</b>	<b>100 mg</b>
<b>Lycopene</b>	<b>10 mg</b>
<b>Phytosterol complex</b> (standardized to 26.6% beta-sitosterol)	<b>678 mg</b>
<b>HMRlignan™</b> Proprietary blend of Norway Spruce and ActiFlax™ Flax Lignan extracts	<b>20.15 mg</b>
<b>Boron</b>	<b>3 mg</b>

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

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



Item #01495

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# PROTECT EYE HEALTH AND FIGHT TIRED EYES

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

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

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

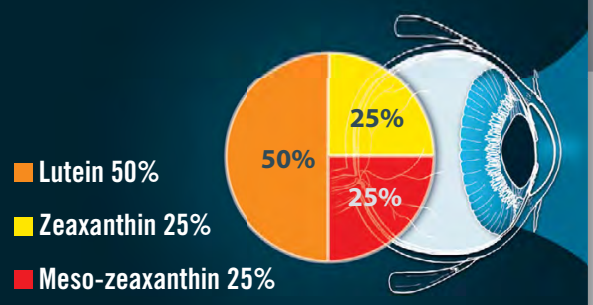
## Fight Tired Eyes With Astaxanthin

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

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

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

The retail price for a bottle containing 60 softgels of **Super Zeaxanthin with Lutein & Meso-zeaxanthin Plus Astaxanthin** is \$42. If a member buys four bottles, the price is reduced to just **\$28.50** per bottle.



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

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



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## WELLNESS PROFILE

BY STEPHEN LAIFER



© PHOTO BY GUIDO APICELLA

### Dr. Enrique Ginzburg

New Directions Inspire New Approaches

Sometimes one's experiences in a chosen career field can alter the trajectory of that career, sending it down a profoundly different path. Something of the sort happened to Dr. Enrique Ginzburg, Professor of Surgery in the Division of Trauma and Surgical Critical Care at the University of Miami's Miller School of Medicine. Ginzburg says he became deeply interested in the subject of life extension as a direct result of the stresses of his job.

"I deal with death and dying every day," explains Ginzburg. "We see shootings, accidents, and other severe traumatic injuries. In the intensive care wards we sometimes have 30 patients who are in critical care. It's a high-pressure, high-acuity work environment."

Ginzburg says he became intrigued with age management early in his medical career, when the topic first came to world attention through several groundbreaking books in the 1970s and 80s. "It was the first time the medical field introduced to lay people the possibility that we could increase our life span through caloric restriction, low-fat diets, and supplements like free radical scavengers and antioxidants."

# WELLNESS PROFILE

Ginzburg became an early adopter of those ideas. His surgical career progressed meanwhile until finally in his mid-40s, as a direct result of having death and dying as constants in his life, Ginzburg started thinking more seriously about the topic of prolonging life. “I saw an advertisement for an anti-aging conference and attended a lecture given by Daniel Rothenberg, a doctor at the University of California at San Diego, on new uses for human growth hormone.” What impressed him most was that Rothenberg was in academia; Ginzburg was also a professor.

## Expanding Research Across Boundaries

From that first conference, Ginzburg has increased his involvement in regenerative research. “We’re looking at stem cell research, regrowth of cardiac tissue, and cell regeneration using telomerase augmenters.” Telomerase is an enzyme that allows for the replacement of bits of DNA known as telomeres, which are otherwise lost when a cell divides. Ginzburg believes

telomerase therapies may be used not only to combat cancer, but also to get around human aging and significantly extend life span.

Moving from trauma surgery to life extension isn’t as big a leap as one might think, especially for Ginzburg, who sees all medicine as branches of the same tree. “The biologic organism is completely interconnected in all aspects of life. What we want to do is help people not just in the acute phase when they require surgery, but also to prevent surgery by optimizing health. And whatever you do cross-over all disciplines of medicine.”

In fact, Ginzburg surmises that recent studies of human growth hormone in post-operative wound healing will one day bear fruit in his own surgical ward: “I can see measuring peoples’ IGF-3 level prior to surgery, and if it’s low, augment it for several weeks to boost the body’s ability to heal, continuing with it post-op.” IGF-3 is one of the newer insulin-like growth factors (or IGFs), peptides released from various cells that have the ability to stimulate cell growth and multiplication.

## Resistance to New Ideas

Like many new ideas, life extension techniques like hormone augmentation have not been met with universal acclaim. Ginzburg points to his own experiences. “When I first showed interest in developing this idea, there was a lot of resistance from the university as well as other physicians,” he recalls. “Some were encouraging, but I met with a considerable amount of obstruction.” But that was several years ago. Times have changed—if slowly. “Today, to my delight, researchers and experts in the field agree about hormone augmentation.”

Use of human growth hormone still meets with some resistance, but Ginzburg believes the tide of acceptance is turning as more successful research comes out. “This is especially true in patients where there is nothing more to offer,” he adds.

He has taken a similar approach to the use of testosterone for intensive care patients on ventilators. “When I’d walk through the ICU, I’d see patients that were emaciated and not thriving. They were chronically ill and they weren’t getting better,” Ginzburg says. “So I talked to the families and told them that supplementing with testosterone was not something used very often, but it might possibly work. We still need to do a large, prospective, randomized trial to prove its effects, but the results have been promising. Supplementing with testosterone gave patients, especially elderly males, some muscle mass to help them breathe better.”

Ginzburg also believes there is an enormous reservoir of valuable alternative medical practices and medicinal products, but most of these still require a significant





amount of research to establish their effectiveness. Ginzburg says he has seen supplementation totally change lives in cases of deficiency. "Once demonstrated that they do work, these can be inserted into daily health regimens," he states. "For example, CoQ10 has been shown to work as an antioxidant, killing melanoma cells in lab tests and even fighting periodontal disease."

Coenzyme Q10 is a compound found naturally in cell mitochondria. CoQ10 is involved in the making of the molecule ATP, which serves as the cell's major energy source and drives a number of biological processes including muscle contraction and the production of protein. "CoQ10 is a perfect example of a product with minimal toxicity that I believe people should be taking as a prophylactic," Ginzburg says. "And there are a great many others, such as vitamin B6, which has shown promise in reversing atherosclerotic disease."

In addition, there are the studies on telomerase. "The second generation of telomerase-augmenting products has been shown to increase the size of telomeres. Those results are about to be published. There are also other growth hormones like testosterone that have significant benefits. I think safety concerns are being alleviated, although we still do need long-term studies."

Then there are more studies in his home field of surgery. "We are looking at new methods of pain control, and have been working on setting up a randomized trial

of low-energy laser treatment for pain management and healing. We know from preliminary work that this does in fact help alleviate chronic pain and inflammation."

## Future Health Challenges

On the other hand, acceptance of new medical approaches may be putting the cart before the horse. Research of necessity goes hand in hand with the creation of a viable health care system for the 21<sup>st</sup> century: as always, the main question is one of money. "Physicians, academic centers, and hospitals both inner city and private, are severely strained trying to provide adequate care," says Ginzburg. "Doctors are forced to see a lot of patients in order to meet their monthly means, and hospitals have cut back on personnel. Nursing provides the most care, but nurses are disappearing."

Fast food companies also need to step up to the plate and provide foods that are healthy. "More vegetables and less saturated fats can reduce sickness," says Ginzburg. "A revolution in the employment sector is sorely needed as well. Employers should set aside 30 minutes every day for physical exercise, possibly even at the work place."

The aging of our population is perhaps the greatest challenge of all, according to Ginzburg, who says the government doesn't provide money for adequate care in assisted living centers. "There needs to be an increase in funding for preventative medicine like exercise and nutrition, to help fight

Here is Dr. Ginzburg's daily supplement regimen.

- Omega-3s
- Policosanol
- Colostrum
- Vitamin B6
- CoQ10
- Vitamin D
- Multivitamin
- Resveratrol



chronic diseases. There is no escaping the fact that the world's population is getting older. I believe medical science has an obligation to do what it can to maintain quality of health in these longer lives."

In the realm of longevity, Dr. Enrique Ginzburg definitely practices what he preaches. He maintains a healthy lifestyle incorporating regular exercise, healthy foods, and supplementation. "I try to ride a bicycle for aerobic exercise 15 minutes a day, followed by 20 minutes of weight training," he says. "It's important for me to do this at least five days a week. Exercise is a great stress fighter, and it helps me to keep in shape, mentally as well as physically." ●

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

"More vegetables and less saturated fats can reduce sickness," says Ginzburg.



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- **Green Grasses and Sprouts** to provide a full array of **chlorophyll-rich**, nutrient-dense natural “green” foods that help **detoxify** and maintain **youthful DNA integrity**. In addition, clinical trials with *chlorella* supplements demonstrate that daily use of this green food may **support healthy immunity** and **wound healing**.<sup>2,3</sup>
- **Probiotics** to sustain **healthy bacterial balance** in the gut, which may support overall **immune** and **digestive health**.
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Chia Seed (organic)	3000 mg
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Spirulina (organic)	1000 mg
Acerola (organic)	750 mg
Wheat Grass (organic)	430 mg
Maitake Mushroom Extract (organic)	400 mg
Wheat Sprout (organic)	300 mg
Barley Malt (organic)	300 mg
Probiotic Blend ( <i>Lactobacillus acidophilus</i> , <i>Lactobacillus casei</i> , <i>Lactobacillus plantarum</i> , <i>Lactobacillus rhamnosus</i> , <i>Bifidobacterium breve</i> , <i>Bifidobacterium longum</i> )	300 mg
Shiitake Mushroom (organic)	300 mg
Cordyceps Mushroom Extract (organic)	300 mg
Dulse (organic)	250 mg
Beet Juice (organic)	250 mg
Barley Grass (organic)	200 mg
Brown Rice Bran (organic)	200 mg
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Suma (organic)	150 mg
Flower Pollen Extract (organic)	120 mg

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

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## ASK THE DOCTOR

BY HARLAN C. BIELEY, MD



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### Drug-induced Nutrient Depletion

**Q:** My sister has begun taking a new blood pressure medication. I am wondering if there are any additional side effects she should be aware of other than what was printed in the warnings from the pharmacy?

**A:** Yes. Many medications can deplete critical nutrients from the body. It is important to be aware of these potential deficiencies and be proactive to supplement when taking pharmaceuticals before other conditions set in. Let's take a closer look:

As health care practitioners, we are taught to be on the alert for major side effects from the drugs we prescribe. Little or no attention has been focused on nutrients that are depleted by these medicines. Many drugs are “new-to-nature molecules,” meaning that they are not found in nature, and they never existed in the history of the world until a pharmaceutical company created them. Along with the beneficial effects these medicines provide come side effects, and in some instances, the depletion of nutrients.

## ASK THE DOCTOR

We shall highlight some classes of compounds and some specific examples within these classes of drugs that have been documented to have caused nutrient depletion(s) in published scientific studies. According to Roger J. Williams, the discoverer of pantothenic acid, biotin, and the co-discoverer of folic acid, the effect of losses is based on a person's "unique biochemical individuality." In addition, the length of time a person takes these prescription medicines also helps determine the overall significance of the nutrient depletion.

For example, when a woman takes estrogen, it depletes the body of B vitamins, regardless of the form of estrogen (birth control pills, bioidentical hormones that contain estrogen, or synthetic estrogens). A woman taking a birth control pill such as Ortho-Novum® depletes her body of the following nutrients: folic acid, magnesium, tyrosine, vitamin B2, vitamin B3, vitamin B6, vitamin B12, vitamin C, and zinc.<sup>1</sup>

Vitamin B6 plays a role in approximately 130 reactions in the body. Vitamin B6 deficiency can lower serotonin and melatonin levels, elevate homocysteine levels, increase anxiety, decrease libido, and impair glucose tolerance. It's important to take B vitamins together as a group instead of as individual vitamins. For example, you cannot make vitamin B6 if you don't have enough vitamin B2. Also, you need vitamin B6 to make niacin (vitamin B3).

Magnesium is a superstar nutrient that plays a role in approximately 300 functions in the body. There are over 100 medicines that cause magnesium depletion such as atenolol, estrogen, and numerous antibiotics such as amikacin, doxycycline, and more.<sup>2</sup>

Magnesium is a co-factor for adenosine triphosphate (ATP), and is critical in energy production. "Serum magnesium can be normal in the presence of intracellular magnesium depletion, and the occurrence of a low serum level usually indicates significant magnesium deficiency."<sup>3</sup> A red blood cell (RBC) magnesium test would be a better test to determine magnesium deficiency, compared to serum magnesium.

A class of compounds called statins is famous for depleting the body of coenzyme Q10 (CoQ10), which can cause muscle aches and other troublesome side effects.

CoQ10 is required for the conversion of carbohydrates to ATP, the body's energy currency, in the cellular powerhouses called mitochondria. Fueling our bodies is essential to keep our cellular machinery in optimal working order. We want to put "good" fuel in the body, and that not only means nutrition from what we eat, but also nutrients that may be depleted from medicines that we are taking, such as CoQ10.

Steroid drugs such as prednisone<sup>4</sup> and triamcinolone<sup>5</sup> have been shown to deplete the body of calcium, magnesium, folic acid, potassium, selenium, vitamin C, and vitamin D.

When a woman takes estrogen, it depletes the body of B vitamins, regardless of the form of estrogen.





Even the commonest of drugs, e.g., aspirin, depletes folic acid, iron, potassium, sodium, and vitamin C.<sup>6</sup> Acetaminophen depletes glutathione.<sup>7</sup>

Surprisingly, antibiotics deplete a wide variety of nutrients, and not so surprisingly, they deplete normal gut flora. For example, trimethoprim<sup>8</sup> and quinolone antibiotics such as Cipro<sup>®9</sup> deplete the body of nearly the same gut flora and the same nutrients: *Bifidobacterium bifidum*, *Lactobacillus acidophilus*, biotin, folic acid, inositol, vitamin B1, vitamin B2, vitamin B3, vitamin B6, vitamin B12, and vitamin K.

Blood pressure-lowering medications routinely deplete nutrients. Here are some examples of classes and agents that induce nutrient losses:

- Loop diuretics like Lasix<sup>®10</sup> deplete the body of calcium, magnesium, potassium, sodium, vitamin B1, vitamin B6, vitamin C, and zinc. Loop diuretics increase magnesium excretion and inhibit passive magnesium absorption.<sup>11</sup>
- Thiazide diuretics like hydrochlorothiazide<sup>12</sup> deplete the body of CoQ10, magnesium, potassium, phosphorus, sodium, and zinc.
- Beta blockers such as propranolol<sup>13</sup> deplete the body of CoQ10 and melatonin.
- ACE inhibitors such as lisinopril<sup>14</sup> deplete the body of zinc and sodium.

There are legions of prescriptive medicines that deplete nutrients from the body. The unintended consequences from these nutrient losses can affect your energy, mood, libido, immune function, and in short, your life! This is a

clarion call to increase awareness for drug-induced nutrient losses from medicines used on a regular basis.

To learn more about drug-induced nutrient depletion, the reference book *Drug-Induced Nutrient Depletion Handbook* (Lexi-Comp Inc., 2001) by Pelton and LaValle is an excellent resource. ●

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

## About the Author:

Harlan C. Bieley, MD is a physician who practices anti-aging and functional medicine in Palm Beach County, Florida. Dr. Bieley uses a multi-modal approach to treating patients that incorporates medicine, nutrition, technology, and lifestyle interventions so that his patients can “Function Higher—Physically, Mentally, Sexually<sup>®</sup>”, for a better quality of life. Dr. Bieley is Board Certified and is an Advanced Fellow in Anti-Aging and Regenerative Medicine through the American Academy of Anti-Aging Medicine.\*

For further information call (561) 842-7422, or view: [www.HealthyAgingMedicalCenter.com](http://www.HealthyAgingMedicalCenter.com).

\* The specialty recognition identified herein has been received from a private organization not affiliated with or recognized by the Florida Board of Medicine.

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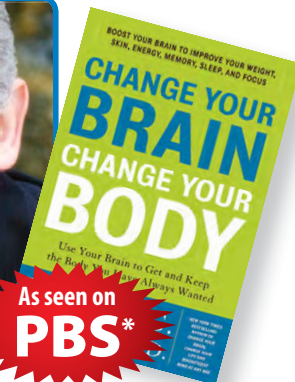
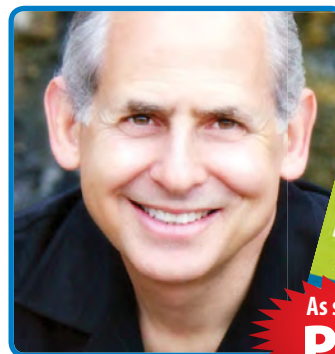
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# FDA Blunder and Coverup Kills Millions!

The UN's World Health Organization (WHO) has just recommended that drinking water contain 25-50 mg of magnesium per liter to prevent deaths from heart attack and stroke. [www.MgWater.com/download](http://www.MgWater.com/download) American bottled water averages <5 mg of magnesium (Mg) per liter, while bottled water in the rest of the world averages about 20 mg of magnesium per liter.

The FDA and the US Department of Justice (DOJ) caused the Mg-deficient-water problem by Un-Constitutionally destroying the American mineral water industry in the 1930's, in the mistaken belief that pure water was good, and that mineral water was just impure water. No other country has ever destroyed their mineral water industry.

For decades, the evidence has been overwhelming that Americans are very deficient in Mg, as evidenced by the 23% shortfall from the RDI, yet the FDA and DOJ have covered up their blunder, getting a Federal lawsuit dismissed before the evidence could be shown, and keeping silent about the millions of deaths indicated by over 50 epidemiological studies from nine countries. Recent studies clearly confirm that water-borne Mg is far, far better in preventing cardiovascular pathologies than food-borne Mg.

Epidemiological studies indicate that [millions of Americans have died](#) due to the FDA's and DOJ's destruction of the American mineral water industry. See:

[www.mgwater.com/anderson.shtml](http://www.mgwater.com/anderson.shtml)

[www.mgwater.com/finland.shtml](http://www.mgwater.com/finland.shtml)

[www.mgwater.com/lancet.shtml](http://www.mgwater.com/lancet.shtml)

[www.mgwater.com/singh.shtml](http://www.mgwater.com/singh.shtml)



Now, it is up to the FDA and DOJ to end this travesty, requiring the Mg content of bottled or canned beverages to be put in labels' nutrition panels, and requiring that all bottled or canned beverages contain at least 25 mg of Mg per liter. FDA and DOJ have ignored petitions and a lawsuit, continuing to kill Millions of Americans just to cover-up their blunder.

## Please write the UN's International Criminal Court asking them

to investigate this Crime Against Humanity in the United States. Please enclose a copy of this page to:

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## HEALTHY PRODUCTS



### Medical ID Card Holds Your Records Electronically

Some day soon, your medical records will be stored electronically in a worldwide database that can be accessed by doctors anywhere on earth in case of an emergency. However, due to the incredibly slow pace that the government has moved to make this future a reality, many elderly citizens are stuck in the Dark Ages. Don't be one of them!

Two new products called **911 Medical ID Card™** and **911 Medical ID Medallion™** are the perfect way to bridge the gap between the current file folder medical system and the digital medical system that is just around the corner.

**911 Medical ID Card™** is a pre-programmed USB that holds all of your medical information in the shape of a credit card so it fits easily into your wallet. It has the capacity to hold all of your personal and medical information so you have it with you when needed. It's easy to set up and easy to keep updated. When needed, the card opens in seconds on a Windows™-based computer and is able to be read almost instantly.

## HEALTHY PRODUCTS

Why take the chance that during an emergency a doctor is unable to locate your medical history? When seconds count, having all of your vital information on you may literally be the difference between life and death. The *911 Medical ID Card™* employs patent-protected next generation technology that stands to revolutionize portable personal health records. The cutting-edge components combined with a superior design and proprietary hardware make this a can't-miss safety net for you or your loved ones.

For those of you who don't carry a wallet, the *911 Medical ID Medallion™* offers the same features as the *911 Medical ID Card™* but fits on a lanyard or chain around your neck so it is easy to find. The *911 Medical ID Medallion™* has a 2GB memory and is the thinnest, smallest and lightest medical records USB device ever made. It is the best way to assure that children, seniors, and those with disabilities and/or other special needs are always protected.

Both the *911 Medical ID Card™* and the *911 Medical ID Medallion™* are an easy and efficient way to carry your important medical records. They are thin, portable and easily found by emergency responders and hospital staff. If

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As the body's largest organ, your skin suffers most visibly from the stresses of modern living and the ravages of time. The unsightly creases, furrows, and dark circles that result can add years to your appearance.

**Melatonin Cream** offers a simple way to counter these issues and naturally restore your intrinsic beauty.

Just apply to a clean, dry area on any part of the body and rub in well at night. In addition to **melatonin**, its proprietary combination of ingredients includes:

- **MSM** (Methylsulfonylmethane). A unique, natural, efficient source of the sulfur that is used by many of the body's molecules. MSM easily penetrates the skin's cell membranes.<sup>1,2</sup>
- **Vitamin C and E**. Two of nature's most powerful antioxidants to help rejuvenate aging skin.<sup>3-5</sup>
- **Tea Extracts**. High-grade compounds derived from **white, green, black, and red tea** to help offset visible aging effects associated with oxidative stress.<sup>6-11</sup>

Combining these beautifying factors helps you maintain that youthful, energized, and radiant look at any age.

A 1 oz jar of **Melatonin Cream** retails for \$28. If a member buys two jars, the price is reduced to just **\$17.25**.

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# Blood Testing The Ultimate Information

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<p><b>○ COMPREHENSIVE PANELS</b>  <b>MALE LIFE EXTENSION PANEL (LC322582)</b>            CBC/Chemistry Profile            DHEA-S            PSA (prostate-specific antigen)            Homocysteine            C-Reactive Protein (high-sensitivity)            Free Testosterone            Total Testosterone            Estradiol            TSH for thyroid function</p>	\$269	<p><b>○ DR. LICHTEN COMPREHENSIVE MALE PANEL (LICHTEN01M)</b>  <b>MALE LIFE EXTENSION PANEL PLUS:</b>            IGF-1, FSH, LH, TSH, T4 free, Cortisol, Fasting Insulin, Sex Hormone Binding Globulin, and Hemoglobin A1C.</p>	\$668
<p><b>○ MALE HORMONE ADD-ON PANEL (LCADDM)</b>  <b>Pregnenolone and Dihydrotestosterone (DHT)</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 valuable information about a testosterone metabolite that can affect the prostate, and the mother hormone that acts as a precursor to all other hormones.</p>	\$155	<p><b>○ DR. LICHTEN COMPREHENSIVE FEMALE PANEL (LICHTEN01F)</b>  <b>FEMALE LIFE EXTENSION PANEL PLUS:</b>            IGF-1, FSH, LH, TSH, T4 free, Cortisol, Fasting Insulin, Sex Hormone Binding Globulin, and Hemoglobin A1C.</p>	\$668
<p><b>○ FEMALE LIFE EXTENSION PANEL (LC322535)</b>            CBC/Chemistry Profile            DHEA-S            Estradiol (an estrogen)            Homocysteine            C-Reactive Protein (high-sensitivity)            Progesterone            Free Testosterone            Total Testosterone            TSH for thyroid function</p>	\$269	<p><b>○ THE CBC/CHEMISTRY PROFILE (LC381822) OVER 40 PARAMETERS TESTED</b>  <b>CARDIOVASCULAR RISK PROFILE</b>            Total Cholesterol      Cholesterol/HDL Ratio            HDL Cholesterol      Estimated CHD Risk            LDL Cholesterol      Glucose            Triglycerides      Iron  <b>LIVER FUNCTION PANEL</b>            AST (SGOT)      Total Bilirubin            ALT (SGPT)      Alkaline Phosphatase            LDH  <b>KIDNEY FUNCTION PANEL</b>            BUN      BUN/Creatinine Ratio            Creatinine      Uric Acid  <b>BLOOD PROTEIN LEVELS</b>            Total Protein      Globulin            Albumin      Albumin/Globulin Ratio  <b>BLOOD COUNT/RED AND WHITE BLOOD CELL PROFILE</b>            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  <b>BLOOD MINERAL PANEL</b>            Calcium      Sodium            Potassium      Chloride            Phosphorus      Iron</p>	\$35
<p><b>○ FEMALE HORMONE ADD-ON PANEL (LCADDF)</b>  <b>Pregnenolone and Total Estrogens</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 valuable information about total estrogen status, and the mother hormone that acts as a precursor to all other hormones.</p>	\$125		
<p><b>○ THYROID ADD-ON PANEL (LCTHYROID)</b>  <b>Free T3 &amp; Free T4.</b> LE strongly recommends adding these important thyroid tests to the Male or Female Life Extension Panels, especially for those interested in weight loss.</p>	\$55	<p><b>NOTE: CBC/Chemistry profile is included in the Male and Female Life Extension panels.</b></p>	
<p><b>○ LIFE EXTENSION THYROID PANEL (LC304131)</b>            TSH, T4, Free T3, Free T4.</p>	\$75	<p><b>24-HOUR URINARY PROFILES</b>  <b>○ URINARY COMPLUS PANEL (LCM408)</b>            This 24-hour urinary steroid hormone profile contains a combination of 30 hormones and metabolites. This panel may be used to evaluate bio-identical hormone replacement therapy.</p>	\$472.50
<p><b>○ OMEGA SCORE™** (LCOMEGA)</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.</p>	\$131.25	<p><b>○ URINARY COMPREHENSIVE PANEL (LCM4001)</b>            This 24-hour urinary steroid hormone profile contains a combination of 17 hormones and metabolites. This panel may be used to evaluate bio-identical hormone replacement therapy.</p>	\$360
<p><b>○ MALE HORMONE RE-TEST PROFILE (LCRTM)</b>            CBC/Chemistry Profile, DHEA-S, Dihydro-testosterone (DHT), Estradiol, PSA, Pregnenolone, Total and Free Testosterone, and TSH. Continual monitoring of hormone levels is necessary for men seeking to maintain optimal blood level values.</p>	\$275	<p><b>○ URINARY ADRENAL PROFILE (LCM4000)</b>            This 24-hour urine test measures a combination of 12 steroid hormones and metabolites synthesized by the adrenal cortex and may prove useful in the evaluation of endocrine disorders, stress, adrenal insufficiency, and more.</p>	\$315
<p><b>○ FEMALE HORMONE RE-TEST PROFILE (LCRTF)</b>            CBC/Chemistry Profile, DHEA-S, Total Estrogen, Pregnenolone, Total and Free Testosterone, Progesterone, and TSH. Continual monitoring of hormone levels is necessary for women seeking to maintain optimal blood level values.</p>	\$250	<p><b>○ URINARY ESTROGEN PROFILE (LCM4061)</b>            This 24-hour urinary steroid hormone profile contains a combination of 8 hormones and metabolites. This panel may be used to evaluate bio-identical hormone replacement therapy.</p>	\$281.25

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

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





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This test is used to monitor SHBG levels which are under the positive control of estrogens and thyroid hormones, and suppressed by androgens.
- ☐ **SOMATOMEDIN C (IGF-1) (LC010363)** \$75  
Indicates growth hormone secretion levels. Low levels have been associated with atherosclerosis as well as all-cause mortality.
- ☐ **TOTAL AND FREE TESTOSTERONE (LC140103)** \$99  
Determines whether testosterone replacement should be considered as a therapy for depression, abdominal obesity, low energy, poor mental performance, or loss of libido.
- ☐ **URINARY 2/16 ESTROGEN METABOLITE RATIO (LC073000)** \$128  
This ratio is relevant as a risk factor for estrogen-sensitive diseases including breast and cervical cancers, osteoporosis, and recurrent respiratory papillomatosis.

#### CARDIAC RISK

- ☐ **Lp-PLA2 (PLAC TEST)\* (LC141275)** \$125  
This test is used to aid in predicting risk for coronary heart disease, and ischemic stroke associated with atherosclerosis. Lp-PLA2 is a cardiovascular risk factor that provides unique information about the stability of the plaque inside your arteries.
- ☐ **C-REACTIVE PROTEIN (HIGH-SENSITIVITY) (LC120766)** \$42  
Measures inflammation factors in arteries. Recent studies indicate that C-reactive protein may be the most accurate risk factor for predicting heart attack and stroke.
- ☐ **APOLIPOPROTEIN ASSESSMENT - (APO A1 + APO B + RATIO) (LC216010)** \$55  
This ratio correlates with risk of coronary artery disease and is useful in the presence of borderline elevations of cholesterol.
- ☐ **FIBRINOGEN\* (LC001610)** \$31  
High levels of this blood-clotting factor increase the risk of heart attack and stroke.
- ☐ **HOMOCYSTEINE (LC706994)** \$64  
Can indicate if you are likely to have a heart attack or stroke. Even if you take folic acid, you still may have dangerously high levels of this artery-clotting metabolic debris that can be lowered with high doses of TMG and vitamin B6.
- ☐ **VAP™ TEST (LC804500) (UPDATED)** \$90  
NEW LOW PRICE  
The VAP cholesterol test provides a more comprehensive coronary heart disease (CHD) risk assessment than the conventional lipid profile. Direct measurements, not estimations, are provided for total cholesterol, LDL, HDL, VLDL, and cholesterol subclasses.

#### MALE HEALTH

- ☐ **PSA (PROSTATE-SPECIFIC ANTIGEN) (LC010322)** \$31  
Can provide an early warning sign for prostate disorders and possible cancer.
- ☐ **FREE-PSA (INCLUDES TOTAL PSA)\* (LC480780)** \$61  
Recommended to determine if an elevated PSA is indicative of prostate cancer.

#### GENERAL HEALTH

- ☐ **CELIAC DISEASE ANTIBODY SCREEN (LC334971)** NEW \$99  
This test measures deamidated gliadin IgA, tissue transglutaminase IgA, and serum IgA.
- ☐ **VITAMIN D (25OH) (LC081950)** \$47  
This test is used to rule out vitamin D deficiency as a cause of bone disease. It can also be used to identify hypercalcemia.
- ☐ **VITAMIN C\* (LC001479)** NEW \$47  
Levels of vitamin C are used to measure nutritional status.
- ☐ **FOOD SAFE ALLERGY TEST (LCM73001)** \$174  
This test measures delayed (IgG) food allergies for 45 common foods.

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

### TERMS AND CONDITIONS

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

Signature of Life Extension Member

X

Life Extension Foundation Members only

#### MEMBER NO.

☐ Male ☐ Female

Name

Date of Birth (required) / /

Address

City

State

Zip

Phone

Credit Card No.

Expiration Date /

Mail your order form to:

**LifeExtension**  
NATIONAL DIAGNOSTICS, INC.

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

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

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

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

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

# Products

## AMINO ACIDS

Acetyl-L-Carnitine  
Acetyl-L-Carnitine-Arginate  
Branched Chain Amino Acids  
D, L-Phenylalanine Capsules  
GABA Powder  
Glycine Capsules  
Glycine Powder  
Arginine Capsules  
L-Arginine Free Base Powder  
Arginine/L-Ornithine Capsules  
L-Carnitine Capsules  
L-Cysteine Capsules  
L-Glutathione, L-Cysteine & C  
L-Glutamine Capsules  
L-Glutamine Powder  
L-Lysine Capsules  
L-Lysine Powder  
L-Tyrosine Tablets  
Mega L-Glutathione Capsules  
N-Acetyl Cysteine Capsules  
Optimized Carnitine with GlycoCarn®  
PharmaGABA  
Super Carnosine Capsules  
Taurine Capsules  
Tryptopure® Tryptophan  
(Optimized) Tryptopure® Plus

## BONE & JOINT HEALTH

ArthroMax™ with Theaflavins  
Bone-Up™  
Bone Restore™  
Bone Strength Formula w/KoAct™  
Chondroitin Sulfate  
Chondrox  
Fast Acting Joint Formula  
Glucosamine Chondroitin Capsules

## BRAIN HEALTH

Acetyl-L-Carnitine  
Acetyl-L-Carnitine-Arginate  
CDP Choline Capsules  
Cognitex with NeuroProtection Complex  
Cognitex with Pregnenolone &  
NeuroProtection Complex  
DMAE  
DMAE-Ginkgo  
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™  
Sacchoromyces Boulardii+mos

## DURK AND SANDY PRODUCTS

Blast™  
Dual-C  
Inner Power™  
Memory Upgrade

## EYE CARE

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

## FIBER

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

## HAIR CARE

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

## HEART HEALTH

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

## HERBAL/PHYTO PRODUCTS

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

Rhodiola Extract  
Rosmarinic Acid Extract  
Silymarin  
SODzyme™ with GliSODin®  
Stevia Extract  
Super Bio-Curcumin®  
Super Curcumin with Bioperine®  
Super Ginkgo Extract  
Triple Action Cruciferous Vegetable Extract  
Venotone  
Whole Grape Extract

## HORMONES

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

## IMMUNE ENHANCEMENT

Agave Digestive-Immune Support  
AHCC® (Active Hexose Correlated Compound)  
Buffered Vitamin C Powder  
Echinacea  
Enhanced Life Extension Whey Protein  
i26 Hyperimmune Egg  
Immune Protect with PARACTIN®  
Lactoferrin  
Maitake SX-Fraction  
Norwegian Shark Liver Oil  
Primal Defense™  
ProBoost™ Thymic Protein A  
Pure Gar™  
Sambu® Guard  
Theralac Capsules  
Thymic Immune Factors  
Ultimate Flora Advanced Immunity  
Vitamin C with Dihydroquercetin  
Zinc Lozenges with Vitamin C

## INFLAMMATORY REACTIONS

Arthro-Immune Joint Support  
ArthroMax™ with Theaflavins  
Barlean's Kids DHA  
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  
5-LOXIN®  
Mega EPA/DHA  
Mega GLA with Sesame Lignans  
MSM  
Natural Relief 1222™ Cream  
PhosphOmega™ Krill Oil  
Perilla Oil  
Serrafazyme  
SODzyme™ with GliSODin® and Wolfberry  
Super Omega-3 EPA/DHA with Sesame  
Lignans & Olive Fruit Extract  
Tart Cherry  
Udo's Choice Oil  
Zyflamend Easy

## LIVER HEALTH

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



## MINERALS

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

## MISCELLANEOUS

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

## MITOCHONDRIAL SUPPORT

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

## MOOD RELIEF

L-Theanine  
5 HTP  
Natural Stress Relief  
Optimized Tryptopure™ Plus  
SAME  
St. John's Wort Extract  
Tryptopure™ L-Tryptophan

## MOUTH CARE

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

## MULTIVITAMIN

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

## PET CARE

Life Extension Cat Mix  
Life Extension Dog Mix

## PROSTATE & URINARY HEALTH

BetterWOMAN®  
Optimized Cran-Max® with UTIRose™  
5-LOXIN®  
(Water-Soluble) Pumpkin Seed Extract

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

## SKIN CARE

Anti-Aging Mask  
Anti-Glycation Serum  
Antioxidant Facial Mist  
Antioxidant Rejuvenating Foot Cream  
Antioxidant Rejuvenating Foot Scrub  
Antioxidant Rejuvenating Hand Cream  
Antioxidant Rejuvenating Hand Scrub  
Anti-Redness & Blemish Lotion  
Cellulite Suppress™ Formula  
Corrective Clearing Mask  
Derma Whey  
Dual-Action MicroDerm Abrasion  
Essential Plant Lipids Reparative Serum  
Face Master® Platinum  
Face Rejuvenating Antioxidant Cream  
Enhanced FernBlock® with Sendara™  
Fine Line-Less  
Hair Suppress Formula  
Healing Mask  
Hyaluronic Facial Moisturizer  
Hydroderm®  
Lavilin Underarm Deodorant  
Life Extension Sun Protection Spray  
Lifting & Tightening Complex  
Melatonin Cream  
Mild Facial Cleanser  
NaPCA w/Aloe Vera  
Neck Rejuvenating Antioxidant Cream  
New Face Solution  
Peel Off Cleansing Mask  
Pigment Correcting Cream  
(Ultra) Rejuvenex®  
Rejuvenex® Body Lotion  
Rejuvenex® Factor  
Rejuvenating Serum  
Skin Lightening Serum  
Skin Stem Cell Serum  
Total Sun Protection Cream  
Triple Action Under Eye Rejuvenator  
Ultra Rejuvenex®  
Ultra RejuveNight® w/ Progesterone  
Ultra RejuveNight® w/o Progesterone  
Ultra Lip Plumper  
Ultra Wrinkle Relaxer  
Under Eye Refining Serum  
Under Eye Rescue Cream  
Vitamin C Serum  
Vitamin D Lotion  
Vitamin K Healing Cream

## SOY

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

## SPECIAL PURPOSE FORMULA

Anti-Alcohol Antioxidants w/HepatoProtection Complex  
Benfotiamine w/Thiamine  
Breast Health Formula  
Butterbur Extract w/Standardized Rosmarinic Acid  
Chlorella  
Chlorophyllin w/Zinc  
Coriolus Versicolor Super Strength  
CR Mimetic Longevity Formula  
Derma-Vits™  
Enhanced Cinsulin® w/Glucose Management Proprietary Blend  
EDTA  
(European Leg Solution) Diosmin95  
Fem Dophilus  
Femmenessence MacaPause®  
GlucFit™  
Ideal Bowel Support 299V  
Lustre™  
Maitake SX-Fraction™

Menopause Solutions  
Migra-eeze™  
Natural Female Support  
Organic Total Body Cleanse  
Pecta-Sol®  
Potassium Iodide  
Prelox® Natural Sex for Men®  
Pyridoxamine  
Rosmarinic Acid Extract

## SPORTS PERFORMANCE

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

## VITAMINS

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

## WEIGHT MANAGEMENT

Alli® Refill Pack  
Belly Slim & Tone  
7-Keto DHEA  
DHEA Complete  
Fucoxanthin Slim™  
HCA  
Integra-Lean® Irvingia  
Optimized Irvingia w/Phase 3™ Calorie Control Complex  
Optimized Saffron with Satiereal®  
Life Mix  
Natural Appetite Control  
SlimStyles® PGX Natural Weight Loss  
Stevia Liquid Extract  
Super CLA Blend w/Guarana and Sesame Lignans  
Super CLA Blend w/Sesame Lignans  
Udo's Choice Wholesome Fast Food Blend  
WellBetX PGX® Soluble Fiber Blend

# Buyers Club Order Form

To order call: 1.954.766.8433 or 1.800.544.4440

No.		Retail	Member Price	Qty	Total
<b>A</b>					
00449	ACETYL-L-CARNITINE - 500 mg, 100 caps	\$56.00	\$42.00		
	ACETYL-L-CARNITINE - 4 bottles of 100 caps	186.64	139.98		
00788	ACETYL-L-CARNITINE ARGINATE - 100 caps	59.00	44.25		
	ACETYL-L-CARNITINE ARGINATE - 4 bottles of 100 caps	203.96	152.97		
01308	ADVANCED LIPID CONTROL - 60 veg. caps	30.00	22.50		
	ADVANCED LIPID CONTROL - 4 bottles of 60 veg. caps	108.00	81.00		
01300	ADVANCED ORAL HYGIENE - 60 veg. mint lozenges	20.00	15.00		
	ADVANCED ORAL HYGIENE - 4 bottles of 60 veg. mint lozenges	72.00	54.00		
01417	AGAVE DIGESTIVE-IMMUNE SUPPORT - 360 grams of powder	30.00	22.50		
	AGAVE DIGESTIVE-IMMUNE SUPPORT - 4 bottles of powder	108.00	81.00		
00681	AHCC - 500 mg, 30 caps	48.98	36.74		
	AHCC - 4 bottles of 30 caps	174.20	130.65		
46925	ALLI® REFILL PACK - 60 mg, 120 caps	69.95	58.00		
00457	(SUPER) ALPHA-LIPOIC ACID w/BIOTIN - 250 mg, 60 caps	37.00	27.75		
	(SUPER) ALPHA-LIPOIC ACID w/BIOTIN - 4 bottles of 60 caps	128.00	96.00		
01420	ANTI-ALCOHOL ANTIOXIDANTS w/HEPATOPRO - 100 caps	18.00	13.50		
	ANTI-ALCOHOL ANTIOXIDANTS w/HEPATOPRO - 4 bottles of 100 caps	64.00	48.00		
00105	APPLE PECTIN POWDER - 227 grams of powder	14.75	11.06		
	APPLE PECTIN POWDER - 4 bottles of powder	55.00	41.25		
01012	ARGININE CAPS - 800 mg, 200 caps	26.50	19.88		
	ARGININE CAPS - 4 bottles of 200 caps	93.00	69.75		
01039	ARGININE/ORNITHINE CAPS - 500/250 mg, 100 caps	16.00	12.00		
	ARGININE/ORNITHINE CAPS - 4 bottles of 100 caps	58.00	43.50		
00038	ARGININE/ORNITHINE POWDER - 150 grams of powder	22.95	17.21		
	ARGININE/ORNITHINE POWDER - 4 bottles of powder	76.00	57.00		
01025	(L)-ARGININE FREE-FORM POWDER - 100 grams of powder	15.98	11.99		
	(L)-ARGININE FREE-FORM POWDER - 4 bottles of powder	57.24	42.93		
01303	ARTHRONAX™ w/THEAFLAVINS - 120 veg. caps	44.00	33.00		
	ARTHRONAX™ w/THEAFLAVINS - 4 bottles of 120 veg. caps	160.00	120.00		
01404	ARTHRO-IMMUNE JOINT SUPPORT - 60 veg. caps	30.00	22.50		
	ARTHRO-IMMUNE JOINT SUPPORT - 4 bottles of 60 veg. caps	108.00	81.00		
00919	ARTICHOKE LEAF EXTRACT - 500 mg, 180 veg. caps	28.00	21.00		
	ARTICHOKE LEAF EXTRACT - 4 bottles of 180 veg. caps	101.52	76.14		
00086	(SUPER) ASCORBATE C POWDER - 8 oz of powder	26.99	20.24		
	(SUPER) ASCORBATE C POWDER - 4 bottles of powder	99.48	74.61		
00080	ASCORBIC ACID POWDER - 16 oz of powder vitamin C	38.00	28.50		
	ASCORBIC ACID POWDER - 4 bottles of powder vitamin C	139.72	104.79		
00082	ASCORBYL PALMITATE CAPSULES - 500 mg, 100 caps	22.50	16.88		
	ASCORBYL PALMITATE CAPSULES - 4 bottles of 100 caps	80.00	60.00		
00888	(OPTIMIZED) ASHWAGANDHA EXTRACT - 60 veg. caps	10.00	7.50		
	(OPTIMIZED) ASHWAGANDHA EXTRACT - 4 bottles of 60 veg. caps	36.00	27.00		
01066	(LOW DOSE) ASPIRIN ENTERIC COATED - 81 mg, 300 tablets	6.00	4.50		
	(LOW DOSE) ASPIRIN ENTERIC COATED - 4 bottles of 300 tablets	21.32	16.00		
00708	ASTAXANTHIN - 2 mg, 30 softgels	10.25	7.69		

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

**SUB-TOTAL OF COLUMN 1**

No.		Retail	Member Price	Qty	Total
<b>B</b>					
01040	BELLY SLIM & TONE - 6 fl oz	\$42.00	\$31.50		
	BELLY SLIM & TONE - 4 bottles of 6 fl oz	152.00	114.00		
00920	BENFOTIAMINE w/ THIAMINE - 100 mg, 120 caps	19.95	14.96		
	BENFOTIAMINE w/ THIAMINE - 4 bottles of 120 caps	74.40	55.80		
00925	(MEGA) BENFOTIAMINE - 250 mg, 120 veg. caps	30.00	22.50		
	(MEGA) BENFOTIAMINE - 4 bottles of 120 veg. caps	108.00	81.00		
01206	BERRY COMPLETE - 30 veg. caps	21.00	15.75		
	BERRY COMPLETE - 4 bottles of veg. caps	74.68	56.00		
01406	(ENHANCED) BERRY COMPLETE w/RZD™ ACAI - 60 veg. caps	29.00	21.75		
	(ENHANCED) BERRY COMPLETE w/RZD™ ACAI - 4 bottles of veg. caps	104.00	78.00		
00664	BETA-CAROTENE - 25,000 IU, 100 softgels	10.98	8.24		
	BETA-CAROTENE - 4 bottles of 100 softgels	39.32	29.49		
00653	BETTERWOMAN -40 caps	40.00	30.00		
	BETTERWOMAN - 4 bottles of 40 caps	152.00	114.00		
00497	BILBERRY EXTRACT - 100 mg, 100 caps	28.00	21.00		
	BILBERRY EXTRACT - 4 bottles of 100 caps	100.00	75.00		
*01006	BIOSIL™ - 5 mg, 30 veg. caps	18.95	15.16		
*01007	BIOSIL™ - 30 fl ml	29.99	23.99		
00102	BIOTIN CAPSULES - 600 mcg, 100 caps	7.50	5.63		
	BIOTIN CAPSULES - 4 bottles of 100 caps	26.00	19.50		
00145	BIOTIN POWDER - 30 grams of powder	12.50	9.38		
	BIOTIN POWDER - 4 bottles of powder	44.00	33.00		
01037	BLACKCURRANT FREEZE DRIED EXTRACT - 60 veg. caps	21.95	16.46		
01034	BLACKCURRANT JUICE CONCENTRATE - 12 fl. oz	17.95	13.46		
01008	BLAST™ - 600 grams of powder	26.95	20.21		
70000	BLOOD PRESSURE MONITOR-ARM CUFF (medium)	99.95	64.97		
70001	BLOOD PRESSURE MONITOR-WRIST (travel size)	69.95	45.47		
01214	BLUEBERRY EXTRACT - 60 veg. caps	22.50	16.88		
	BLUEBERRY EXTRACT - 4 bottles of 60 veg. caps	80.00	60.00		
00811	BONE RESTORE - 150 caps	22.50	16.88		
	BONE RESTORE - 4 bottles of 150 caps	78.00	58.50		
01211	BONE STRENGTH FORMULA w/KOACT™ - 120 caps	42.00	31.50		
	BONE STRENGTH FORMULA w/KOACT™ - 4 bottles of 120 caps	152.00	114.00		
00313	BONE-UP® - 240 caps (hydroxyapatite complex)	24.95	18.71		
	BONE-UP® - 4 bottles of 240 caps	90.00	67.50		
01079	BOOSTER - 60 softgels	48.00	36.00		
	BOOSTER - 4 bottles of 60 softgels	176.00	132.00		
01380	(SUPER) BOOSTER w/ADVANCED K2 COMPLEX - 60 softgels	42.00	31.50		
	(SUPER) BOOSTER w/ADVANCED K2 COMPLEX - 4 bottles of 60 softgels	152.00	114.00		
00621	BORON CAPS - 3 mg, 100 caps	5.95	4.46		
	BORON CAPS - 4 bottles of 100 caps	21.00	15.75		
00202	BOSWELLA - 100 caps	38.00	28.50		
	BOSWELLA - 4 bottles of 100 caps	120.00	90.00		
00258	BOSWELLA TOPICAL CREAM - 4 oz jar	15.00	11.25		
	BOSWELLA TOPICAL CREAM - 4 jars	52.00	39.00		
00253	BRANCHED CHAIN AMINO ACIDS - 90 caps	19.50	14.63		
	BRANCHED CHAIN AMINO ACIDS - 4 bottles of 90 caps	68.00	51.00		
00999	BREAST HEALTH FORMULA - 60 veg. caps	34.00	25.50		
	BREAST HEALTH FORMULA - 4 bottles of 60 veg. caps	120.00	90.00		
00893	BRITE EYES III - 2 vials, 5 ml each	34.00	25.50		
	BRITE EYES III - 4 boxes	128.00	96.00		

**SUB-TOTAL OF COLUMN 2**



No.		Retail	Member Price	Qty	Total
00136	BROMELAIN POWDER - 100 grams of powder	\$21.00	\$15.75		
	BROMELAIN POWDER - 4 bottles of powder	75.00	56.25		
01203	(SPECIALLY COATED) BROMELAIN - 500 mg, 60 enteric coated tablets	21.00	15.75		
	(SPECIALLY COATED) BROMELAIN - 4 bottles of 60 tablets	76.00	57.00		
00884	BUTTERBUR EXT. W/ STANDARDIZED ROSMARINIC ACID - 60 softgels	44.00	33.00		
	BUTTERBUR EXT. W/ STANDARDIZED ROSMARINIC ACID - 4 bottles of 60 softgels	158.40	118.80		
<b>C</b>					
01015	CALCIUM CITRATE - 300 caps	\$24.00	\$18.00		
	CALCIUM CITRATE - 4 bottles of 300 caps	85.00	63.75		
00535	CALCIUM D-GLUCARATE - 200 mg, 60 caps	18.00	13.50		
	CALCIUM D-GLUCARATE - 4 bottles of 60 caps	60.00	45.00		
00118	CAPSULE FILLER MACHINE FOR "00" CAPSULES	12.00	9.00		
	CAPSULE FILLER MACHINE FOR "00" CAPSULES - 4 machines	45.00	33.75		
00613	CAPSULE FILLER MACHINE FOR "0" CAPSULES	12.00	9.00		
	CAPSULE FILLER MACHINE FOR "0" CAPSULES - 4 machines	45.00	33.75		
00916	(OPTIMIZED) CARNITINE w/GLYCOCARN® - 60 veg. caps	29.00	21.75		
	(OPTIMIZED) CARNITINE w/GLYCOCARN® - 4 bottles of 60 veg. caps	104.40	78.30		
01041	L-CARNITINE CAPSULES - 500 mg, 30 caps	15.00	11.25		
	L-CARNITINE CAPSULES - 4 bottles of 30 caps	52.80	39.60		
01258	CARNOSOOTHE w/PICROPROTECT™ - 60 veg. caps	29.95	22.46		
	CARNOSOOTHE w/PICROPROTECT™ - 4 bottles of 60 veg. caps	108.00	81.00		
01287	(SUPER) CARNOSINE CAPS - 500 mg, 90 caps	66.00	49.50		
	(SUPER) CARNOSINE CAPS - 4 bottles of 90 caps	240.00	180.00		
01011	CELLULITE SUPPRESS™ FORMULA - 6 fl. oz	58.00	43.50		
	CELLULITE SUPPRESS™ FORMULA - 4-6oz bottles	208.00	156.00		
00390	CDP CHOLINE CAPS - 250 mg, 60 caps	36.00	27.00		
	CDP CHOLINE CAPS - 4 bottles of 60 caps	136.00	102.00		
00998	CELL SENSOR-EMF DETECTION/MEASUREMENT METER	39.95	29.95		
01370	CHILDREN'S FORMULA MIX - 100 chewable tablets	18.00	13.50		
	CHILDREN'S FORMULA MIX - 4 bottles of 100 chewable tablets	64.00	48.00		
00550	CHLORELLA - 500 mg, 200 tablets	23.50	17.63		
	CHLORELLA - 4 bottles of 200 tablets	84.00	63.00		
01048	CHLOROPHYLLIN w/ZINC - 100 mg, 100 caps	24.00	18.00		
	CHLOROPHYLLIN w/ZINC - 4 bottles of 100 caps	80.00	60.00		
01359	CHO-LESS - 90 capsules	32.50	24.38		
00541	CHOLINE CHLORIDE - 16 oz liquid	14.95	11.21		
	CHOLINE CHLORIDE - 4 bottles of 16 oz liquid	56.00	42.00		
00364	CHONDROITIN SULFATE CONCENTRATE - 400 mg, 60 tablets	19.95	14.96		
	CHONDROITIN SULFATE CONCENTRATE - 4 bottles of 60 tablets	72.00	54.00		
00169	CHROMIUM - 200 mcg polynicotinate, 365 caps	28.00	21.00		
	CHROMIUM - 4 bottles of 365 caps	104.00	78.00		
01071	CHROMIUM ULTRA - 100 veg. caps	24.00	18.00		
	CHROMIUM ULTRA - 4 bottles of 100 veg. caps	84.00	63.00		
00551	CILANTRO HERBAL EXTRACT - 1 oz	12.00	9.00		
	CILANTRO HERBAL EXTRACT - 4 bottles of 1oz	44.00	33.00		
01267	(ENHANCED) CINSULIN® w/GLUCOSE MGMT PROP BLEND - 90 veg. caps	32.00	24.00		
	(ENHANCED) CINSULIN® w/GLUCOSE MGMT PROP BLEND - 4 bottles of 90 veg. caps	120.00	90.00		
00069	CITRUS BIOFLAVONOID - 100 caps	15.99	11.99		
	CITRUS BIOFLAVONOID - 4 bottles of 100 caps	59.28	44.46		

SUB-TOTAL OF COLUMN 3

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

No.		Retail	Member Price	Qty	Total
00818	(SUPER) CLA BLEND w/SESAME LIGNANS - 1000 mg, 120 softgels	\$36.00	\$27.00		
	(SUPER) CLA BLEND w/SESAME LIGNANS - 4 bottles of 120 softgels	132.00	99.00		
	(SUPER) CLA BLEND w/SESAME LIGNANS - 10 bottles, 120 softgels	263.30	197.48		
00819	(SUPER) CLA BLEND w/GUARANA & SESAME -120 softgels	42.00	31.50		
	(SUPER) CLA BLEND w/GUARANA & SESAME - 4 btl of 120 softgels	153.32	114.99		
00050	COD LIVER OIL - 12 fl oz (355 ml) (Emulsified)	14.58	10.94		
	COD LIVER OIL - 4 bottles of 12 fl oz (355 ml)	49.08	36.81		
00293	COD LIVER OIL - 100 softgels (Emulsified)	9.95	7.46		
	COD LIVER OIL - 4 bottles of 100 softgels	37.52	28.14		
00922	COGNITEX w/PREGNENOLONE & NEUROPROTECTION COMPLEX - 90 softgels	74.00	55.50		
	COGNITEX w/PREGNENOLONE & NEUROPROTECTION COMPLEX - 4 btl of 90 softgels	266.40	199.80		
	COGNITEX w/PREGNENOLONE & NEUROPROTECTION COMPLEX - 12 btl of 90 softgels	768.00	576.00		
00921	COGNITEX w/o PREGNENOLONE w/NEUROPROTECTION COMPLEX - 90 softgels	72.00	54.00		
	COGNITEX w/o PREGNENOLONE w/NEUROPROTECTION COMPLEX - 4 bottles of 90 softgels	256.00	192.00		
	COGNITEX w/o PREGNENOLONE w/NEUROPROTECTION COMPLEX - 12 bottles of 90 softgels	744.00	558.00		
00110	COMPLETE B-COMPLEX - 180 caps	21.50	16.13		
	COMPLETE B-COMPLEX - 4 bottles of 180 caps	72.00	54.00		
01374	COMPREHENSIVE NUTRIENT PACK - 30-day supply	189.00	141.75		
	COMPREHENSIVE NUTRIENT PACK - 120-day supply	684.00	513.00		
00119	COPPER CAPSULES - 2 mg, 100 caps	8.95	6.71		
	COPPER CAPSULES - 4 bottles of 100 caps	32.36	24.27		
00208	(ENHANCED) COQ10 (with Brewer's Yeast) - 30 mg, 100 caps	32.00	24.00		
	(ENHANCED) COQ10 (with Brewer's Yeast) - 4 bottles of 100 caps	108.00	81.00		
	(ENHANCED) COQ10 (with Brewer's Yeast) - 10 bottles of 100 caps	245.00	183.75		
00949	(SUPER ABSORBABLE) COQ10™ w/ d-LIMONENE - 50 mg, 60 softgels	25.00	18.75		
	(SUPER ABSORBABLE) COQ10™ w/ d-LIMONENE - 4 bottles of 60 softgels	88.00	66.00		
	(SUPER ABSORBABLE) COQ10™ w/ d-LIMONENE - 10 bottles of 60 softgels	200.00	150.00		
00950	(SUPER ABSORBABLE) COQ10™ w/ d-LIMONENE - 100 mg, 100 softgels	66.00	49.50		
	(SUPER ABSORBABLE) COQ10™ w/ d-LIMONENE - 4 bottles of 100 softgels	240.00	180.00		
	(SUPER ABSORBABLE) COQ10™ w/ d-LIMONENE - 10 bottles of 100 softgels	560.00	420.00		
01226	(SUPER UBIQUINOL) COQ10 - 100 mg, 60 softgels	56.00	42.00		
	(SUPER UBIQUINOL) COQ10 - 4 bot of 60 softgels	208.00	156.00		
	(SUPER UBIQUINOL) COQ10 - 10 bot of 60 softgels	480.00	360.00		
01426	(SUPER UBIQUINOL) COQ10 w/ENH MITOCHONDRIAL SUPPORT™ -100 mg, 60 softgels	62.00	46.50		
	(SUPER UBIQUINOL) COQ10 w/ENH MITOCHONDRIAL SUPPORT™ -4 bot of 60 softgels	224.00	168.00		
	(SUPER UBIQUINOL) COQ10 w/ENH MITOCHONDRIAL SUPPORT™ -10 bot of 60 softgels	520.00	390.00		
01425	(SUPER UBIQUINOL) COQ10 w/ENH MITOCHONDRIAL SUPPORT™ -50 mg, 100 softgels	58.00	43.50		
	(SUPER UBIQUINOL) COQ10 w/ENH MITOCHONDRIAL SUPPORT™ -4 bot of 100 softgels	212.00	159.00		
	(SUPER UBIQUINOL) COQ10 w/ENH MITOCHONDRIAL SUPPORT™ -10 bot of 100 softgels	500.00	375.00		
01427	(SUPER UBIQUINOL) COQ10 w/ENH MITOCHONDRIAL SUPPORT™ -50 mg, 30 softgels	20.00	15.00		
	(SUPER UBIQUINOL) COQ10 w/ENH MITOCHONDRIAL SUPPORT™ -4 bot of 30 softgels	72.00	54.00		
01053	CORIOLUS VERSICOLOR SUPER STRENGTH - 600 mg, 150 veg. caps	99.95	74.96		
00857	COROMEGA CHILD BRAIN & BODY - (Lemon Lime) 30 packets	25.00	18.75		
	COROMEGA CHILD BRAIN & BODY - (Lemon Lime) 4 boxes of 30 packets	90.00	67.00		
80118	COSMESIS ANTI-AGING MASK - 2 oz bottle	66.60	49.95		
	COSMESIS ANTI-AGING MASK - 2-2 oz bottles	117.22	87.92		
80134	COSMESIS ANTI-GLYCATION SERUM - 1 oz bottle w/BLUEBERRY & POMEGRANATE EXTRACTS	24.00	18.00		
	COSMESIS ANTI-GLYCATION SERUM - 2-1 oz bottles w/BLUEBERRY & POMEGRANATE EXTRACTS	45.60	34.20		

SUB-TOTAL OF COLUMN 4

AUGUST 2010

# Buyers Club Order Form

To order call: 1.954.766.8433 or 1.800.544.4440

No.		Retail	Member Price	Qty	Total
<b>C CONTINUED</b>					
80133	COSMESIS ANTIOXIDANT FACIAL MIST - 2 oz bottle	\$29.95	\$22.46		
	COSMESIS ANTIOXIDANT FACIAL MIST - 2-2 oz bottles	56.90	42.68		
80132	COSMESIS ANTIOXIDANT FACIAL MIST - 4 oz bottle	39.95	29.96		
	COSMESIS ANTIOXIDANT FACIAL MIST - 2-4 oz bottles	76.00	57.00		
80127	COSMESIS ANTIOXIDANT REJUVENATING FOOT CREAM - 2 oz jar	39.95	29.96		
	COSMESIS ANTIOXIDANT REJUVENATING FOOT CREAM - 2-2 oz jar	76.00	57.00		
80128	COSMESIS ANTIOXIDANT REJUVENATING FOOT SCRUB - 2 oz jar	52.95	39.71		
	COSMESIS ANTIOXIDANT REJUVENATING FOOT SCRUB - 2-2 oz jar	93.20	69.90		
80117	COSMESIS ANTIOXIDANT REJUVENATING HAND CREAM - 2 oz jar	59.00	44.25		
	COSMESIS ANTIOXIDANT REJUVENATING HAND CREAM - 2-2 oz jars	106.00	79.50		
80121	COSMESIS ANTIOXIDANT REJUVENATING HAND SCRUB - 2 oz jar	52.95	39.71		
	COSMESIS ANTIOXIDANT REJUVENATING HAND SCRUB - 2-2 oz jars	93.20	69.90		
80105	COSMESIS ANTI-REDNESS & BLEMISH LOTION - 1 oz	69.95	52.46		
	COSMESIS ANTI-REDNESS & BLEMISH LOTION - 2-1 oz bottles	123.12	92.34		
80120	COSMESIS CORRECTIVE CLEARING MASK - 2 oz jar	59.95	44.96		
	COSMESIS CORRECTIVE CLEARING MASK - 2-2 oz jars	105.52	79.14		
80108	COSMESIS ESSENTIAL PLANT LIPIDS REPARATIVE SERUM - 1 oz	71.60	53.70		
	COSMESIS ESSENTIAL PLANT LIPIDS REPARATIVE SERUM - 2-1 oz bottles	126.00	94.50		
80123	COSMESIS FACE REJUVENATING ANTIOXIDANT CREAM - 2 oz jar	65.00	48.75		
	COSMESIS FACE REJUVENATING ANTIOXIDANT CREAM - 2-2 oz jars	114.40	85.80		
80107	COSMESIS FINE LINE-LESS - 1 oz	69.95	52.46		
	COSMESIS FINE LINE-LESS - 2-1 oz bottles	123.12	92.34		
80131	COSMESIS HAIR SUPPRESS FORMULA - 4 oz bottle	53.75	40.31		
	COSMESIS HAIR SUPPRESS FORMULA - 2- 4 oz bottles	94.60	70.95		
80115	COSMESIS HEALING MASK - 2 oz bottle	59.95	44.96		
	COSMESIS HEALING MASK - 2-2 oz bottles	105.52	79.14		
80109	COSMESIS HYALURONIC FACIAL MOISTURIZER - 1 oz	52.95	39.71		
	COSMESIS HYALURONIC FACIAL MOISTURIZER - 2 bottles of 1 oz	93.20	69.90		
80110	COSMESIS HYALURONIC OIL-FREE FACIAL MOISTURIZER - 1 oz	52.95	39.71		
	COSMESIS HYALURONIC OIL-FREE FACIAL MOISTURIZER - 2 btl's of 1 oz	93.20	69.90		
80103	COSMESIS LIFTING & TIGHTENING COMPLEX - 1 oz	69.95	52.46		
	COSMESIS LIFTING & TIGHTENING COMPLEX - 2 bottles of 1 oz	123.12	92.34		
80135	COSMESIS MELATONIN CREAM - 1 oz jar	28.00	21.00		
	COSMESIS MELATONIN CREAM - 2 - 1 oz jars	46.00	34.50		
80114	COSMESIS MILD FACIAL CLEANSER - 8 oz	52.95	39.71		
	COSMESIS MILD FACIAL CLEANSER - 2 bottles of 8 oz	93.20	69.90		
80122	COSMESIS NECK REJUVENATING ANTIOXIDANT CREAM - 2 oz jar	59.00	44.25		
	COSMESIS NECK REJUVENATING ANTIOXIDANT CREAM - 2-2 oz jars	106.00	79.50		
80119	COSMESIS PEEL OFF CLEANSING MASK - 2 oz bottle	59.95	44.96		
	COSMESIS PEEL OFF CLEANSING MASK - 2-2 oz bottles	105.52	79.14		
80111	COSMESIS PIGMENT CORRECTING CREAM - 1/2 oz	69.95	52.46		
	COSMESIS PIGMENT CORRECTING CREAM - 2 bottles of 1/2 oz	123.12	92.34		
80106	COSMESIS REJUVENATING SERUM - 1 oz	69.95	52.46		
	COSMESIS REJUVENATING SERUM - 2 bottles of 1 oz	123.12	92.34		
80112	COSMESIS SKIN LIGHTENING SERUM - 1/2 oz	79.95	59.96		
	COSMESIS SKIN LIGHTENING SERUM - 2 bottles of 1/2 oz	140.72	105.54		
80130	COSMESIS SKIN STEM CELL SERUM - 1 oz	69.00	51.75		
	COSMESIS SKIN STEM CELL SERUM - 2 bottles of 1 oz	128.00	96.00		
80116	COSMESIS ULTRA LIP PLUMPER - 1/3 oz	59.95	44.96		
	COSMESIS ULTRA LIP PLUMPER - 2 bottles of 1/3 oz	105.52	79.14		
80101	COSMESIS ULTRA WRINKLE RELAXER - 1 oz	89.95	67.46		
	COSMESIS ULTRA WRINKLE RELAXER - 2 bottles of 1 oz	159.52	119.64		

**SUB-TOTAL OF COLUMN 5**

AUGUST 2010

No.		Retail	Member Price	Qty	Total
80113	COSMESIS UNDER EYE REFINING SERUM - 1/2 oz	\$69.95	\$52.46		
	COSMESIS UNDER EYE REFINING SERUM - 2 bottles of 1/2 oz	123.12	92.34		
80104	COSMESIS UNDER EYE RESCUE CREAM - 1/2 oz	69.95	52.46		
	COSMESIS UNDER EYE RESCUE CREAM - 2 bottles of 1/2 oz	123.12	92.34		
80129	COSMESIS VITAMIN C SERUM - 1 oz	79.95	59.96		
	COSMESIS VITAMIN C SERUM - 2 bottles of 1 oz	140.72	105.54		
80136	COSMESIS VITAMIN D LOTION - 4 oz	29.95	22.46		
	COSMESIS VITAMIN D LOTION - 2 bottles of 4 oz	56.00	42.00		
80102	COSMESIS VITAMIN K HEALING CREAM - 1 oz	74.95	56.21		
	COSMESIS VITAMIN K HEALING CREAM - 2 bottles of 1 oz	131.92	98.94		
00862	CRAN-MAX® - 500 mg, 60 veg. caps	17.50	13.13		
	CRAN-MAX® - 4 bottles of 60 veg. caps	60.00	45.00		
01424	(OPTIMIZED) CRAN-MAX® with UTIROSE™ - 60 veg. caps	18.00	13.50		
	(OPTIMIZED) CRAN-MAX® with UTIROSE™ - 4 bottles of 60 veg. caps	64.00	48.00		
00609	CREATINE CAPS MICRONIZED - 120 caps	10.95	8.21		
	CREATINE CAPS MICRONIZED - 4 bottles of 120 caps	37.00	27.75		
00610	CREATINE POWDER MICRONIZED - 500 grams of powder	29.00	21.75		
	CREATINE POWDER MICRONIZED - 4 bottles of powder	106.52	79.89		
01096	CREATINE-WHEY-GLUTAMINE POWDER - 1 kg vanilla	45.00	33.75		
	CREATINE-WHEY-GLUTAMINE POWDER - 4 bottles of powder	168.00	126.00		
01429	CR MIMETIC LONGEVITY FORMULA - 60 veg. caps	39.00	29.25		
	CR MIMETIC LONGEVITY FORMULA - 4 bottles of 60 veg. caps	144.00	108.00		
00912	(SUPER) CURCUMIN W/BIOPERINE® - 800 mg, 60 caps	20.75	15.56		
	(SUPER) CURCUMIN W/BIOPERINE® - 4 bottles of 60 caps	74.72	56.04		
00407	(SUPER BIO) CURCUMIN® - 400 mg, 60 veg. caps	30.00	22.50		
	(SUPER BIO) CURCUMIN® - 4 bottles of 60 veg. caps	106.00	79.50		
00064	(L) CYSTEINE CAPSULES - 500 mg, 60 caps	18.95	14.21		
	(L) CYSTEINE CAPSULES - 4 bottles of 60 caps	65.24	48.93		
<b>D</b>					
01063	DERMA-VITS™ - 90 caps	\$14.99	\$11.24		
01313	DERMA WHEY - 400 mg, 60 caps	65.00	48.75		
	DERMA WHEY - 4 bottles of 60 caps	236.00	177.00		
00856	(BARLEAN'S KID'S) DHA (Fruit Punch Flavor)- 8 fl. oz	22.00	16.50		
	(BARLEAN'S KID'S) DHA (Fruit Punch Flavor)- 4 bottles of 8 fl. oz	80.00	60.00		
00995	DHA 240 - 240 mg, 60 softgels	19.00	14.25		
	DHA 240 - 4 bottles of 60 softgels	68.00	51.00		
00658	7-KETO® DHEA METABOLITE - 25 mg, 100 caps	28.00	21.00		
	7-KETO® DHEA METABOLITE - 4 bottles of 100 caps	96.00	72.00		
01271	7-KETO® DHEA METABOLITE - 100 mg, 60 veg. caps	40.00	30.00		
	7-KETO® DHEA METABOLITE - 4 bottles of 60 veg. caps	144.00	108.00		
00607	DHEA - 25 mg dissolve in mouth 100 tablets pharmaceutical-grade	14.00	10.50		
	DHEA - 4 bottles of 100 tablets pharmaceutical-grade	47.00	35.25		
01250	DHEA COMPLETE - 60 veg. caps	48.00	36.00		
	DHEA COMPLETE - 4 bottles of 60 veg. caps	172.80	129.60		
00335	DHEA - 25 mg, 100 caps	15.00	11.25		
	DHEA - 4 bottles of 100 caps	50.00	37.50		
00454	DHEA - 15 mg, 100 caps	12.00	9.00		
	DHEA - 4 bottles of 100 caps	40.00	30.00		
00882	DHEA - 50 mg, 60 caps	16.00	12.00		
	DHEA - 4 bottles of 60 caps	56.00	42.00		
00883	DHEA - 100 mg, 60 caps	22.50	16.88		
	DHEA - 4 bottles of 60 caps	76.00	57.00		

**SUB-TOTAL OF COLUMN 6**

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



No.		Retail	Member Price	Qty	Total
01358	DIGEST RC - 30 tablets	\$19.95	\$14.96		
	DIGEST RC - 4 boxes of 30 tablets	68.00	51.00		
01272	(ENHANCED SUPER) DIGESTIVE ENZYMES - 100 veg. caps	18.95	14.21		
	(ENHANCED SUPER) DIGESTIVE ENZYMES - 4 bottles of 100 veg. caps	64.00	48.00		
01273	(ENHANCED SUPER) DIGESTIVE ENZYMES w/PROBIOTICS - 100 veg. caps	24.00	18.00		
	(ENHANCED SUPER) DIGESTIVE ENZYMES w/PROBIOTICS - 4 bottles of 100 veg. caps	88.00	66.00		
*01042	(EUROPEAN LEG SOLUTION) DIOSMIN95 - 600 mg, 30 veg. tabs	20.00	15.00		
	(EUROPEAN LEG SOLUTION) DIOSMIN95 - 4 bottles of 30 veg. tabs	72.00	54.00		
00034	D,L-PHENYLALANINE CAPSULES - 500 mg, 100 caps	18.75	14.06		
	D,L-PHENYLALANINE CAPSULES - 4 bottles of 100 caps	64.00	48.00		
00257	DMAE BITARTRATE - 150 mg, 200 caps	14.00	10.50		
	DMAE BITARTRATE - 4 bottles of 200 caps	42.00	31.50		
00197	DMAE-GINKGO CAPSULES - 100 caps	36.00	27.00		
	DMAE-GINKGO CAPSULES - 4 bottles of 100 caps	120.00	90.00		
	DMAE-GINKGO CAPSULES - 8 bottles of 100 caps	220.00	165.00		
00059	DMG - 125 mg dimethylglycine, 60 tablets	18.50	13.88		
	DMG - 4 boxes of 60 tablets	68.00	51.00		
01052	DNA PROTECTION FORMULA - 60 veg. caps	28.00	21.00		
	DNA PROTECTION FORMULA - 4 bottles of 60 veg. caps	100.80	75.60		
00321	DR. PROCTOR'S ADVANCED HAIR FORMULA - 2 oz	39.95	29.96		
	DR. PROCTOR'S ADVANCED HAIR FORMULA - 4 bottles	128.00	96.00		
00320	DR. PROCTOR'S HAIR FORMULA SHAMPOO - 8 oz bottle	24.95	18.71		
	DR. PROCTOR'S HAIR FORMULA SHAMPOO - 4 bottles	88.00	66.00		
00376	DR. TUNG'S TONGUE CLEANER	8.45	6.34		
	DR. TUNG'S TONGUE CLEANERS - 4 quantity	32.20	24.15		
00899	DUAL-ACTION MICRODERMABRASION ADV. EXFOLIATE - 2.4 net oz jar	39.95	29.96		
	DUAL-ACTION MICRODERMABRASION ADV. EXFOLIATE - 4 jars of 2.4 net oz	155.80	116.85		
00240	DUAL-C - 90 caps	12.00	9.00		
	DUAL-C - 4 bottles of 90 caps	42.00	31.50		
<b>E</b>					
00388	ECHINACEA - 250 mg, 60 caps	\$14.35	\$10.76		
	ECHINACEA - 4 bottles of 60 caps	50.00	37.50		
01024	EDTA - 500 mg, 100 caps	17.50	13.13		
01403	ELIGEN® B12 - 100 mcg 30 veg tablets	28.00	21.00		
	ELIGEN® B12 - 4 bottles of 30 veg tablets	100.00	75.00		
00048	(EMULSIFIED SUPER TWIN) EPA/DHA - 12 fl. oz.	22.45	16.84		
00625	(MEGA) EPA/DHA - 120 softgels	19.95	14.96		
	(MEGA) EPA/DHA - 4 bottles of 120 softgels	72.00	54.00		
<b>F</b>					
*01054	FACE MASTER® PLATINUM	\$199.00	\$199.00		
00965	FAST-ACTING JOINT FORMULA - 30 caps	39.00	29.25		
	FAST-ACTING JOINT FORMULA - 4 bottles of 30 caps	144.00	108.00		
20053	FEM DOPHILUS® - 30 caps	24.95	18.71		
20055	FEM DOPHILUS® - 60 caps	35.95	26.96		
01064	FEMMENESSENCE MACAPAUZE® - 120 veg. caps	34.99	26.24		
*01311	(ENHANCED) FERNBLOCK® w/SENDARA™ - 30 veg. caps	39.00	29.25		
	(ENHANCED) FERNBLOCK® w/SENDARA™ - 4 bottles of 30 veg. caps	140.00	105.00		
00229	FIBER FOOD CAPS - 200 caps	15.00	11.25		
	FIBER FOOD CAPS - 4 bottles of 200 caps	50.00	37.50		
	FIBER FOOD CAPS - 10 bottles of 200 caps	119.00	89.25		
00228	FIBER FOOD - 300 grams of powder	15.00	11.25		
	FIBER FOOD - 4 bottles of powder	50.00	37.50		
	FIBER FOOD - 10 bottles of powder	119.00	89.25		

SUB-TOTAL OF COLUMN 7

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

No.		Retail	Member Price	Qty	Total
00718	FIBRINOGEN RESIST FORMULA (NATTOKINASE) - 30 veg. caps	\$49.00	\$36.75		
	FIBRINOGEN RESIST FORMULA (NATTOKINASE) - 4 bottles of 30 caps	176.00	132.00		
00873	FLAXSEED POWDER (HI-LIGNAN NUTRI-FLAX) - 16 oz powder	9.95	7.46		
01200	FLORASTOR® - 250 mg, 50 caps	55.15	41.36		
01312	(OPTIMIZED) FOLATE (5-METHYLTETRAHYDROFOLATE) - 100 veg. caps	28.00	21.00		
	(OPTIMIZED) FOLATE (5-METHYLTETRAHYDROFOLATE) - 4 bottles of 100 veg. caps	100.00	75.00		
00347	FOLIC ACID + B12 CAPSULES - 200 caps	10.50	7.88		
	FOLIC ACID + B12 CAPSULES - 4 bottles of 200 caps	38.00	28.50		
00300	FORSKOLIN - 10 mg, 60 caps of elemental forskolin	15.00	11.25		
	FORSKOLIN - 4 bottles of 60 caps of elemental forskolin	50.00	37.50		
00993	FUCOXANTHIN-SLIM™ - 90 softgels	44.00	33.00		
	FUCOXANTHIN-SLIM™ - 4 bottles of 90 softgels	156.00	117.00		
<b>G</b>					
00127	GABA POWDER - 100 grams of powder	\$23.75	\$17.81		
	GABA POWDER - 4 bottles of powder	90.00	67.50		
00559	GAMMA E TOCOPHEROL/TOCOTRIENOLS - 60 softgels	42.00	31.50		
	GAMMA E TOCOPHEROL/TOCOTRIENOLS - 4 bottles of 60 softgels	148.00	111.00		
00759	GAMMA E TOCOPHEROL W/SESAME LIGNANS - 60 softgels	32.00	24.00		
	GAMMA E TOCOPHEROL W/SESAME LIGNANS - 4 bottles of 60 softgels	116.00	87.00		
00117	GELATIN CAPSULES - Set of 1000 empty caps size "00"	19.00	14.25		
	GELATIN CAPSULES - 4 Sets	72.00	54.00		
01301	GH PITUITARY SUPPORT DAY FORMULA - 120 vegetarian tabs	48.00	36.00		
	GH PITUITARY SUPPORT DAY FORMULA - 4 bottles of 120 veg. tabs	176.00	132.00		
01302	GH PITUITARY SUPPORT NIGHT FORMULA - 120 veg. caps	25.00	18.75		
	GH PITUITARY SUPPORT NIGHT FORMULA - 4 bottles of 120 veg. caps	90.00	67.50		
00778	GINKGO BILOBA CERTIFIED EXTRACT™ - 120 mg, 365 caps	46.00	34.50		
	GINKGO BILOBA CERTIFIED EXTRACT™ - 2 bottles of 365 caps	87.00	65.25		
00504	(SUPER) GINKGO EXTRACT - 120 mg, 100 caps	29.00	21.75		
	(SUPER) GINKGO EXTRACT - 4 bottles of 100 caps	106.00	79.50		
01032	(PANAX RED) GINSENG - 60 veg. caps	29.99	22.49		
<b>G CONTINUED</b>					
00756	(MEGA) GLA WITH SESAME LIGNANS - 60 softgels	\$19.50	\$14.63		
	(MEGA) GLA WITH SESAME LIGNANS - 4 bottles of 60 softgels	72.00	54.00		
00345	(L) GLUTAMINE CAPSULES - 500 mg, 100 caps	14.95	11.21		
	(L) GLUTAMINE CAPSULES - 4 bottles of 100 caps	54.00	40.50		
00141	(L)-GLUTAMINE POWDER - 100 grams of powder	19.00	14.25		
	(L)-GLUTAMINE POWDER - 4 bottles of powder	67.52	50.64		
00522	GLUCOSAMINE/CHONDROITIN CAPSULES - 100 caps	38.00	28.50		
	GLUCOSAMINE/CHONDROITIN CAPSULES - 4 bottles of 100 caps	128.00	96.00		
00512	GLUCOFIT™ (COROSOLIC ACID) - 100 softgels	28.00	21.00		
	GLUCOFIT™ (COROSOLIC ACID) - 4 bottles of 100 softgels	100.00	75.00		
00113	GLUTATHIONE, C & CYSTEINE - 750 mg, 100 caps	18.00	13.50		
	GLUTATHIONE, C & CYSTEINE - 4 bottles of 100 caps	64.00	48.00		
00314	(MEGA) L-GLUTATHIONE - 250 mg, 60 caps	35.95	26.96		
	(MEGA) L-GLUTATHIONE - 4 bottles of 60 caps	129.44	97.08		
00795	GLYCINE CAPSULES - 1000 mg, 100 caps	12.00	9.00		
	GLYCINE CAPSULES - 4 bottles of 100 caps	43.20	32.40		

\* Due to license restrictions, this product is not for sale to wholesalers outside of the United States of America and Canada.

\*\* Can only be sold in the United States and cannot be sold into the health food retail store channel.

† Member pricing not valid on this item.

SUB-TOTAL OF COLUMN 8

# Buyers Club Order Form

To order call: 1.954.766.8433 or 1.800.544.4440

No.		Retail	Member Price	Qty	Total
<b>G CONTINUED</b>					
00128	GLYCINE POWDER - 300 grams of powder	\$18.00	\$13.50		
	GLYCINE POWDER - 4 bottles of powder	64.00	48.00		
01091	(WHOLE) GRAPE EXTRACT w/RESVERATROL - 60 veg. caps	36.00	27.00		
	(WHOLE) GRAPE EXTRACT w/RESVERATROL - 4 bottles of 60 veg. caps	136.00	102.00		
01411	GRAPE SEED EXTRACT w/RESVERATROL & PTEROSTILBENE-100 mg, 60 veg. caps	36.00	27.00		
	GRAPE SEED EXTRACT w/RESVERATROL & PTEROSTILBENE-4 bottles of 60 veg. caps	136.00	102.00		
00953	(MEGA) GREEN TEA EXTRACT - lightly caffeinated - 100 veg. caps	28.00	21.00		
	(MEGA) GREEN TEA EXTRACT - 4 bottles of 100 veg. caps	106.00	79.50		
00954	(MEGA) GREEN TEA EXTRACT - decaffeinated - 100 veg. caps	28.00	21.00		
	(MEGA) GREEN TEA EXTRACT - 4 bottles of 100 veg. caps	106.00	79.50		
<b>H</b>					
01074	5 HTP - 100 mg, 60 caps	\$27.95	\$20.96		
00230	HCA - 90 caps	18.00	13.50		
	HCA - 4 bottles of 90 caps	62.00	46.50		
01405	HEALTHY HAIR SPRAY - 5 fl. oz (150 ml) 1 bottle	35.00	26.25		
	HEALTHY HAIR SPRAY - 4 bottles of 5 fl. oz	128.00	96.00		
00656	HEPATOPRO - 900 mg, 60 softgel	49.50	37.13		
	HEPATOPRO - 4 bottles of 60 softgel	188.00	141.00		
00873	HI-LIGNAN NUTRI-FLAX - 16 oz powder	9.95	7.46		
00800	HOMOCYSTEINE RESIST - 100 caps	24.00	18.00		
	HOMOCYSTEINE RESIST - 4 bottles of 100 caps	86.40	64.80		
00067	HOODIA GORDONII - 60 caps	14.00	10.50		
00627	HUPERZINE A W/NATURAL VITAMIN E - 50 mcg, 60 caps	27.95	20.96		
	HUPERZINE A W/NATURAL VITAMIN E - 4 bottles of 60 caps	96.00	72.00		
00661	HYDRODERM® - 1 oz bottle	79.95	59.96		
	HYDRODERM® - 2 - 1 oz bottles	130.66	98.00		
<b>I</b>					
01060	i26 HYPERIMMUNE EGG - 140 grams of powder	\$49.99	\$42.00		
01065	IDEAL BOWEL SUPPORT 299V - 30 veg. caps	21.95	16.46		
00955	IMMUNE PROTECT W/PARACTIN® - 30 veg. caps	29.50	22.13		
	IMMUNE PROTECT W/PARACTIN® - 4 bottles of 30 veg. caps	106.20	79.65		
01049	INNERPOWER™ W/SWEET STEVIA- Tropical Flavor Powder	42.00	31.50		
00155	INOSINE CAPSULES - 500 mg, 60 caps	22.95	17.21		
	INOSINE CAPSULES - 4 bottles of 60 caps	84.00	63.00		
00109	INOSITOL CAPSULES - 500 mg, 100 caps	14.99	11.24		
	INOSITOL CAPSULES - 4 bottles of 100 caps	55.16	41.37		
00410	INOSITOL CAPSULES - 1000 mg, 360 caps	48.00	36.00		
	INOSITOL CAPSULES - 4 bottles of 360 caps	175.00	131.25		
00108	INOSITOL POWDER - 100 grams of powder	18.00	13.50		
	INOSITOL POWDER - 4 bottles of powder	67.52	50.64		
01021	INTACT™ DIGEST - 8 fl oz	29.95	22.46		
	INTACT™ DIGEST - 4 - 8 fl oz bottles	112.00	84.00		
01292	INTEGRA-LEAN® IRVINGIA - 150 mg, 60 veg. caps	44.00	33.00		
	INTEGRA-LEAN® IRVINGIA - 4 bottles of 60 veg. caps	160.00	120.00		
01002	IODORAL - 180 caps	50.00	37.50		
00563	IRON PROTEIN PLUS - 300 mg, 100 caps	24.00	18.00		
	IRON PROTEIN PLUS - 4 bottles of 100 caps	88.00	66.00		
01492	(OPTIMIZED) IRVINGIA W/PHASE 3™ - 120 veg. caps	64.00	48.00		
	(OPTIMIZED) IRVINGIA W/PHASE 3™ - 4 bottles of 120 veg. caps	240.00	180.00		
<b>SUB-TOTAL OF COLUMN 9</b>					

No.		Retail	Member Price	Qty	Total
<b>J, K</b>					
00056	JARRO-DOPHILUS EPS™ - 60 veg. caps	\$19.95	\$14.96		
01224	(SUPER) K WITH ADVANCED K2 COMPLEX - 90 softgels	26.00	19.50		
	(SUPER) K WITH ADVANCED K2 COMPLEX - 4 bottles of 90 softgels	92.00	69.00		
01050	NKO KRILL OIL - 60 softgels	33.95	25.46		
00316	KYOLIC® GARLIC FORMULA 102 - 350 mg, 200 caps	23.95	17.96		
	KYOLIC® GARLIC FORMULA 102 - 4 bottles of 200 caps	82.00	61.50		
00214	KYOLIC® GARLIC FORMULA 105 - 200 caps	22.95	17.21		
	KYOLIC® GARLIC FORMULA 105 - 4 bottles of 200 caps	73.00	54.75		
00789	KYOLIC® RESERVE - 600 mg, 120 caps	24.75	18.56		
	KYOLIC® RESERVE - 4 bottles of 120 caps	85.80	64.36		
<b>L</b>					
00513	LACTOFERRIN (APOLACTOFERRIN) CAPS - 300 mg, 60 caps	\$40.00	\$30.00		
	LACTOFERRIN (APOLACTOFERRIN) CAPS - 4 bottles of 60 caps	144.00	108.00		
00017	LAVILIN UNDERARM DEODORANT - 12.5 grams of cream	15.00	11.25		
	LAVILIN UNDERARM DEODORANT - 4 jars of cream	55.00	41.25		
01003	LIFE EXTENSION CAT MIX - 100 grams of powder	15.00	11.25		
	LIFE EXTENSION CAT MIX - 4 bottles of powder	48.00	36.00		
00544	LIFE EXTENSION DOG MIX - 100 grams of powder	19.50	14.63		
	LIFE EXTENSION DOG MIX - 4 bottles of powder	64.00	48.00		
00010	LIFE EXTENSION HAIR CONDITIONER - 16 oz bottle	6.00	4.50		
	LIFE EXTENSION HAIR CONDITIONER - 4 bottles	18.00	13.50		
00020	LIFE EXTENSION LECITHIN GRANULES - 16 oz. jar	15.00	11.25		
	LIFE EXTENSION LECITHIN GRANULES - 4 jars	50.00	37.50		
00019	LIFE EXTENSION LECITHIN w/B5 AND BHA - 16 oz. jar	15.00	11.25		
	LIFE EXTENSION LECITHIN w/B5 AND BHA - 4 16 oz. 4 jars	50.00	37.50		
01455	LIFE EXTENSION MIX™ - 315 tablets	98.00	73.50		
	LIFE EXTENSION MIX™ - 4 bottles of 315 tablets	344.00	258.00		
	LIFE EXTENSION MIX™ - 10 bottles of 315 tablets	695.00	521.25		
01457	LIFE EXTENSION MIX™ W/EXTRA NIACIN - 315 tablets	98.00	73.50		
	LIFE EXTENSION MIX™ W/EXTRA NIACIN - 4 bottles of 315 tablets	344.00	258.00		
	LIFE EXTENSION MIX™ W/EXTRA NIACIN - 10 bottles of 315 tablets	695.00	521.25		
01454	LIFE EXTENSION MIX™ - 490 caps	110.00	82.50		
	LIFE EXTENSION MIX™ - 4 bottles of 490 caps	392.00	294.00		
	LIFE EXTENSION MIX™ - 10 bottles of 490 caps	850.00	637.50		
01456	LIFE EXTENSION MIX™ POWDER - 14.81 oz of powder	98.00	73.50		
	LIFE EXTENSION MIX™ POWDER - 4 bottles of powder	344.00	258.00		
	LIFE EXTENSION MIX™ POWDER - 10 bottles of powder	720.00	540.00		
01465	LIFE EXTENSION MIX™ - 315 tablets without copper	98.00	73.50		
	LIFE EXTENSION MIX™ - 4 bottles of 315 tablets without copper	344.00	258.00		
	LIFE EXTENSION MIX™ - 10 bottles of 315 tablets without copper	695.00	521.25		
01467	LIFE EXTENSION MIX™ W/EXTRA NIACIN 315 tablets w/o copper	98.00	73.50		
	LIFE EXTENSION MIX™ W/EXTRA NIACIN 4 bottles of 315 tablets w/o copper	344.00	258.00		
	LIFE EXTENSION MIX™ W/EXTRA NIACIN 10 bottles of 315 tablets w/o copper	695.00	521.25		
01464	LIFE EXTENSION MIX™ - 490 caps without copper	110.00	82.50		
	LIFE EXTENSION MIX™ - 4 bottles of 490 caps without copper	392.00	294.00		
	LIFE EXTENSION MIX™ - 10 bottles of 490 caps without copper	850.00	637.50		
01466	LIFE EXTENSION MIX™ POWDER - 14.81 oz of powder without copper	98.00	73.50		
	LIFE EXTENSION MIX™ POWDER - 4 bottles of powder without copper	344.00	258.00		
	LIFE EXTENSION MIX™ POWDER - 10 bottles of powder without copper	720.00	540.00		
<b>SUB-TOTAL OF COLUMN 10</b>					



No.		Retail	Member Price	Qty	Total
01279	LIFE EXTENSION MOUTHWASH w/POMEGRANATE - 16 oz bottle	\$18.50	\$13.88		
	LIFE EXTENSION MOUTHWASH w/POMEGRANATE - 4 -16 oz bottle	68.00	51.00		
01401	LIFE EXTENSION ONE-PER-DAY - 60 veg. tablets	19.95	14.96		
	LIFE EXTENSION ONE-PER-DAY - 4 bottles of 60 veg. tablets	72.00	54.00		
00011	LIFE EXTENSION SHAMPOO - 16 oz bottle	6.00	4.50		
	LIFE EXTENSION SHAMPOO - 4 bottles	19.00	14.25		
01278	LIFE EXTENSION TOOTHPASTE MINT FLAVOR - 4 oz	9.50	7.13		
	LIFE EXTENSION TOOTHPASTE MINT FLAVOR - 4, 4 oz tubes	34.68	26.00		
01416	LIFE EXTENSION TWO-PER-DAY - 60 veg. tablets	9.95	7.46		
	LIFE EXTENSION TWO-PER-DAY - 4 bottles of 60 veg. tablets	36.00	27.00		
01415	LIFE EXTENSION TWO-PER-DAY - 120 veg. tablets	18.95	14.21		
	LIFE EXTENSION TWO-PER-DAY - 4 bottles of 120 veg. tablets	68.00	51.00		
00263	LIFE FLORA™ - 300 mg, 120 caps	20.50	15.38		
	LIFE FLORA™ - 4 bottles of 120 caps	75.00	56.25		
00032	LIFE MIX - 1 lb can of powder	25.00	18.75		
	LIFE MIX - 4 cans of powder	90.00	67.50		
00294	LIQUID EMULSIFIED VITAMIN A DROPS - 20,000 IU per drop	27.00	20.25		
	LIQUID EMULSIFIED VITAMIN A DROPS - 4 bottles	96.00	72.00		
00939	5-LOXIN® - 75 mg, 100 veg. caps	19.50	14.63		
	5-LOXIN® - 4 bottles of 100 veg. caps	69.00	51.75		
01013	L-LYSINE CAPSULES - 620 mg, 100 caps	9.00	6.75		
	L-LYSINE CAPSULES - 4 bottles of 100 caps	32.00	24.00		
00129	L-LYSINE POWDER - 300 grams of powder	16.00	12.00		
	L-LYSINE POWDER - 4 bottles of powder	55.00	41.25		
01017	LUSTRE™ - 90 tablets	17.50	13.13		
	LUSTRE™ - 4 bottles of 90 tablets	62.00	46.50		
01028	LYCOPENE - 10 mg, 60 softgels	24.98	18.74		
00455	(MEGA) LYCOPENE EXTRACT - 15 mg, 90 softgels	35.00	26.25		
	(MEGA) LYCOPENE EXTRACT - 4 bottles of 90 softgels	120.00	90.00		
<b>M</b>					
01044	MAGNESIUM CAPS - 500 mg, 100 caps	\$9.50	\$7.13		
	MAGNESIUM CAPS - 4 bottles of 100 caps	32.00	24.00		
00502	MAGNESIUM CITRATE CAPS - 160 mg, 100 caps	9.00	6.75		
	MAGNESIUM CITRATE CAPS - 4 bottles of 100 caps	30.00	22.50		
00704	MAITAKE™ SX-FRACTION - 90 veg. tablets	49.95	37.46		
00547	MELATONIN - 300 mcg, 100 caps	5.75	4.31		
	MELATONIN - 4 bottles of 100 caps	20.00	15.00		
00328	MELATONIN CAPSULES - 500 mcg, 200 caps	16.00	12.00		
	MELATONIN CAPSULES - 4 bottles of 200 caps	56.00	42.00		
00329	MELATONIN CAPSULES - 1 mg, 60 caps	5.00	3.75		
	MELATONIN CAPSULES - 4 bottles of 60 caps	18.52	13.89		
00330	MELATONIN CAPSULES - 3 mg, 60 caps	8.00	6.00		
	MELATONIN CAPSULES - 4 bottles of 60 caps	27.52	20.64		
00333	MELATONIN CAPSULES - 3 mg, 60 time-release caps	10.50	7.88		
	MELATONIN CAPSULES - 4 bottles of 60 time-release caps	37.52	28.14		
00331	MELATONIN CAPSULES - 10 mg, 60 caps	28.00	21.00		
	MELATONIN CAPSULES - 4 bottles of 60 caps	96.00	72.00		
00332	MELATONIN LOZENGES - 3 mg, 60 dissolve-in-mouth lozenges	8.00	6.00		
	MELATONIN LOZENGES - 4 bottles of 60 dissolve-in-mouth lozenges	27.52	20.64		
00546	MELATONIN TIME RELEASE - 300 mcg, 100 caps	6.25	4.69		
	MELATONIN TIME RELEASE - 4 bottles of 100 caps	22.52	16.89		

SUB-TOTAL OF COLUMN 11

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

No.		Retail	Member Price	Qty	Total
00540	MELATONIN TIME RELEASE - 750 mcg, 60 caps	\$5.75	\$4.31		
	MELATONIN TIME RELEASE - 4 bottles of 60 caps	20.00	15.00		
01009	MEMORY UPGRADE - 600 grams powder	26.95	20.21		
01047	MENOPAUSE SOLUTIONS - 120 tablets	49.95	37.46		
00536	METHYLCOBALAMIN - 1 mg, 60 dissolve-in-mouth lozenges (vanilla)	9.95	7.46		
	METHYLCOBALAMIN - 4 bottles of 60 dissolve-in-mouth lozenges	32.00	24.00		
00537	METHYLCOBALAMIN - 5 mg, 60 dissolve-in-mouth lozenges (vanilla)	32.00	24.00		
	METHYLCOBALAMIN - 4 bottles of 60 dissolve-in-mouth lozenges	100.00	75.00		
	METHYLCOBALAMIN - 10 bottles of 60 dissolve-in-mouth lozenges	230.00	172.50		
00709	MIGRA-EEZE (BUTTERBUR) - 60 softgels	29.50	22.13		
	MIGRA-EEZE (BUTTERBUR) - 4 bottles of 60 softgels	105.32	79.00		
00623	MINERAL FORMULA FOR MEN - 100 caps	15.00	11.25		
	MINERAL FORMULA FOR MEN - 4 bottles of 100 caps	50.00	37.50		
	MINERAL FORMULA FOR MEN - 12 bottles of 100 caps	130.00	97.50		
00624	MINERAL FORMULA FOR WOMEN - 100 caps	15.00	11.25		
	MINERAL FORMULA FOR WOMEN - 4 bottles of 100 caps	50.00	37.50		
	MINERAL FORMULA FOR WOMEN - 12 bottles of 100 caps	130.00	97.50		
01315	(SUPER) MIRAFORTE w/STANDARDIZED LIGNANS - 120 caps	62.00	46.50		
	(SUPER) MIRAFORTE w/STANDARDIZED LIGNANS - 4 bottles of 120 caps	224.00	168.00		
01368	MITOCHONDRIAL ENERGY OPTIMIZER - 120 caps	86.00	64.50		
	MITOCHONDRIAL ENERGY OPTIMIZER - 4 bottles of 120 caps	312.00	234.00		
00803	MISTORAL III w/COQ10 - 2 fl oz bottle	28.00	21.00		
	MISTORAL III w/COQ10 - 4 bottles	101.32	75.99		
00065	MK-7 - 90 mcg, 60 softgels	28.00	21.00		
	MK-7 - 4 bottles of 60 softgels	100.00	75.00		
00451	MSM (METHYL-SULFONYL-METHANE) - 1000 mg, 100 caps	14.00	10.50		
	MSM (METHYL-SULFONYL-METHANE) - 4 bottles of 100 caps	47.80	35.85		
<b>N</b>					
00215	N-ACETYL CYSTEINE CAPSULES - 600 mg, 60 caps	\$14.00	\$10.50		
	N-ACETYL CYSTEINE CAPSULES - 4 bottles of 60 caps	54.00	40.50		
00168	NAPCA W/ALOE VERA - 8 fl oz bottle	10.00	7.50		
	NAPCA W/ALOE VERA - 4 bottles	36.60	27.45		
00066	NATTOKINASE - 60 softgels	24.98	18.74		
00718	NATTOKINASE (FIBRINOGEN RESIST FORMULA) - 30 caps	49.00	36.75		
	NATTOKINASE (FIBRINOGEN RESIST FORMULA) - 4 bottles of 30 caps	176.00	132.00		
00891	NATURAL APPETITE CONTROL - 90 softgels	28.00	21.00		
	NATURAL APPETITE CONTROL - 4 bottles of 90 softgels	100.80	75.60		
00984	NATURAL BP MANAGEMENT - 60 tablets	42.00	31.50		
	NATURAL BP MANAGEMENT - 4 bottles of 60 tablets	151.20	113.40		
00913	NATURAL ESOPHAGUARD - 10 softgels	19.95	14.96		
	NATURAL ESOPHAGUARD - 2 boxes of 10 softgels	38.00	28.50		
00712	NATURAL ESTROGEN w/POMEGRANATE EXTRACT - 60 caplets	38.00	28.50		
	NATURAL ESTROGEN w/POMEGRANATE EXTRACT - 4 bottles of 60 caplets	132.00	99.00		
01221	NATURAL FEMALE SUPPORT - 30 veg. caps	28.00	21.00		
	NATURAL FEMALE SUPPORT - 4 bottles of 30 veg. caps	96.00	72.00		
00698	NATURAL RELIEF 1222™ - 2 oz tube	28.00	21.00		
	NATURAL RELIEF 1222™ - 4, 2 oz tubes	100.00	75.00		
00990	NATURAL SLEEP - 3 mg, 60 caps	12.99	9.74		
	NATURAL SLEEP - 4 bottles of 60 caps	40.00	30.00		
00277	NATURAL SLEEP MELATONIN - 5 mg, 60 caps	18.00	13.50		
	NATURAL SLEEP MELATONIN - 4 bottles of 60 caps	64.00	48.00		

SUB-TOTAL OF COLUMN 12

AUGUST 2010

# Buyers Club Order Form

To order call: 1.954.766.8433 or 1.800.544.4440

No.		Retail	Member Price	Qty	Total
<b>N CONTINUED</b>					
00987	NATURAL STRESS RELIEF - 30 veg. caps	\$28.00	\$21.00		
	NATURAL STRESS RELIEF - 4 bottles of 30 veg. caps	96.00	72.00		
01000	NEW FACE SOLUTION - 1.7 oz bottle	54.00	40.50		
	NEW FACE SOLUTION - 4 bottles of 1.7 oz	196.00	147.00		
00096	NIACIN (B-3) CAPSULES - 1000 mg, 100 caps	12.75	9.56		
	NIACIN (B-3) CAPSULES - 4 bottles of 100 caps	48.00	36.00		
00372	NIACIN (B-3) CAPSULES - 500 mg, 100 caps	7.65	5.74		
	NIACIN (B-3) CAPSULES - 4 bottles of 100 caps	26.60	19.95		
00373	NO-FLUSH NIACIN - 800 mg, 100 caps	19.00	14.25		
	NO-FLUSH NIACIN - 4 bottles of 100 caps	68.00	51.00		
01035	NUTRIM POWDER - 170 grams powder	25.95	19.46		
00523	N-ZIMES® - 270 caps	23.90	17.93		
	N-ZIMES® - 4 bottles of 270 caps	88.00	66.00		
<b>O</b>					
00104	OCTACOSANOL - 8000 mcg, 60 caps	\$17.99	\$13.49		
	OCTACOSANOL - 4 bottles of 60 caps	62.96	47.22		
01483	(SUPER) OMEGA 3 EPA/DHA w/SESAME LIGNANS & OLIVE FRUIT EXTRACT - 60 softgels	18.00	13.50		
	(SUPER) OMEGA 3 EPA/DHA w/SESAME LIGNANS & OLIVE FRUIT EXTRACT - 4 bottles of 60 softgels	64.00	48.00		
01482	(SUPER) OMEGA 3 EPA/DHA w/SESAME LIGNANS & OLIVE FRUIT EXTRACT - 120 softgels	32.00	24.00		
	(SUPER) OMEGA 3 EPA/DHA w/SESAME LIGNANS & OLIVE FRUIT EXTRACT - 4 bottles of 120 softgels	112.00	84.00		
	(SUPER) OMEGA 3 EPA/DHA w/SESAME LIGNANS & OLIVE FRUIT EXTRACT - 10 bottles of 120 softgels	249.00	186.75		
01484	(SUPER) OMEGA 3 EPA/DHA w/SESAME LIGNANS & OLIVE FRUIT EXTRACT (ENTERIC COATED) - 120 softgels	34.00	25.50		
	(SUPER) OMEGA 3 EPA/DHA w/SESAME LIGNANS & OLIVE FRUIT EXTRACT (ENTERIC COATED) - 4 bottles of 120 softgels	124.00	93.00		
	(SUPER) OMEGA 3 EPA/DHA w/SESAME LIGNANS & OLIVE FRUIT EXTRACT (ENTERIC COATED) - 10 bottles of 120 softgels	280.00	210.00		
00717	ONLY TRACE MINERALS - 90 caps	15.00	11.25		
	ONLY TRACE MINERALS - 4 bottles of 90 caps	50.00	37.50		
00915	OPTIZINC® - 30 mg, 90 veg. caps	5.95	4.46		
	OPTIZINC® - 4 bottles of 90 veg. caps	20.00	15.00		
01070	ORGANIC TOTAL BODY CLEANSE - 14-day supply	34.99	26.24		
00043	L-ORNITHINE CAPSULES - 500 mg, 100 caps	24.95	18.71		
	L-ORNITHINE CAPSULES - 4 bottles of 100 caps	80.00	60.00		
<b>P</b>					
00107	PABA CAPS - 500 mg, 100 caps	\$13.99	\$10.49		
	PABA CAPS - 4 bottles of 100 caps	49.32	36.99		
00073	PANCREATIN - 500 mg, 50 caps	11.99	8.99		
	PANCREATIN - 4 bottles of 50 caps	43.96	32.97		
00923	PEAK ATP® WITH GLYCOCARN® - 60 tablets	59.00	44.25		
	PEAK ATP® WITH GLYCOCARN® - 4 bottles of 60 tablets	224.00	168.00		
00342	PECTA-SOL - One-month supply modified citrus pectin	99.95	74.96		
	PECTA-SOL - Four-month supply modified citrus pectin	382.80	287.10		
00872	PGX FIBER POWDER (SLIMSTYLES) - 6.4 oz powder	22.95	17.21		
00673	(WELLBETX) PGX SOLUBLE FIBER BLEND -180 caps	34.95	26.21		
00865	PHARMAGABA™ - 60 chewable tablets	29.95	22.46		
	PHARMAGABA™ - 4 bottles of 60 chewable tablets	108.00	81.00		
00368	PHOSPHATIDYL SERINE CAPS - 100 mg, 100 caps	54.00	40.50		
	PHOSPHATIDYL SERINE CAPS - 4 bottles of 100 caps	192.00	144.00		
01050	PHOSPHOMEGA™ KRILL OIL - 60 softgels	33.95	25.46		
00614	PILL CUTTER/GRINDER	11.95	8.96		
<b>SUB-TOTAL OF COLUMN 13</b>					

AUGUST 2010

No.		Retail	Member Price	Qty	Total
00561	POLICOSANOL - 10 mg, 60 tablets	\$24.00	\$18.00		
	POLICOSANOL - 6 bottles of 60 tablets	108.00	81.00		
01423	(FULL-SPECTRUM) POMEGRANATE™ - 30 softgels	24.00	18.00		
	(FULL-SPECTRUM) POMEGRANATE™ - 4 bottles of 30 softgels	84.00	63.00		
00956	POMEGRANATE EXTRACT - 30 veg. caps	19.50	14.63		
	POMEGRANATE EXTRACT - 4 bottles of 30 veg. caps	70.20	52.64		
00957	POMEGRANATE JUICE CONCENTRATE - 16 oz. liquid	25.95	19.46		
	POMEGRANATE JUICE CONCENTRATE - 4 bottles of 16 oz liquid	96.00	72.00		
00577	POTASSIUM IODIDE - 1 box, 14 tablets	6.95	5.21		
	POTASSIUM IODIDE - 4 boxes, 14 tablets	21.00	15.75		
00302	PREGNENOLONE CAPSULES - 50 mg, 100 caps	24.00	18.00		
	PREGNENOLONE CAPSULES - 4 bottles of 100 caps	76.00	57.00		
00700	PREGNENOLONE CAPSULES - 100 mg, 100 caps	26.00	19.50		
	PREGNENOLONE CAPSULES - 4 bottles of 100 caps	90.00	67.50		
*01373	PRELOX® NATURAL SEX FOR MEN® - 60 tablets	50.00	37.50		
	PRELOX® NATURAL SEX FOR MEN® - 4 bottles of 60 tablets	180.00	135.00		
00571	PRIMAL DEFENSE® - 900 mg, 90 caplets	49.95	37.46		
	PRIMAL DEFENSE® - 4 bottles of 90 caplets	194.00	145.50		
01019	PRIMAL DEFENSE® - 180 caplets	78.95	59.21		
00525	PROBOOST THYMIC PROTEIN A™ - 4 mcg, 30 packets	72.00	54.00		
	PROBOOST THYMIC PROTEIN A™ - 4 boxes	280.00	210.00		
00869	PRO FEM CREAM - 2 oz jar, Progesterone Cream	26.00	19.50		
	PRO FEM CREAM - 4, 2 oz jars, Progesterone Cream	96.00	72.00		
01020	PROGREENS® - 15 stick pack	22.50	16.88		
01072	PRO M INTERNAL DEODORIZER - 500 mg, 100 veg. caps	28.00	21.00		
	PRO M INTERNAL DEODORIZER - 4 bottles of 100 veg. caps	100.00	75.00		
*01495	(ULTRA NAT) PROSTATE FORMULA w/ 5-LOXIN® STAND. LIGNANS-60 softgels	38.00	28.50		
	(ULTRA NAT) PROSTATE FORMULA w/ 5-LOXIN® STAND. LIGNANS-4 bot of 60 softgels	140.00	105.00		
	(ULTRA NAT) PROSTATE FORMULA w/ 5-LOXIN® STAND. LIGNANS-12 bot of 60 softgels	384.00	288.00		
01092	(ENHANCED LIFE EXTENSION) PROTEIN (VANILLA) - 1 kg. of powder	38.00	28.50		
	(ENHANCED LIFE EXTENSION) PROTEIN (VANILLA) - 4 bot of powder	144.00	108.00		
01093	(ENHANCED LIFE EXTENSION) PROTEIN (CHOCOLATE) - 1 kg of powder	38.00	28.50		
	(ENHANCED LIFE EXTENSION) PROTEIN (CHOCOLATE) - 4 bot of powder	144.00	108.00		
01094	(ENHANCED LIFE EXTENSION) PROTEIN (NATURAL) - 1 kg of powder	38.00	28.50		
	(ENHANCED LIFE EXTENSION) PROTEIN (NATURAL) - 4 bot of powder	144.00	108.00		
01095	(ENHANCED LIFE EXTENSION) PROTEIN (BERRY) - 1 kg of powder	38.00	28.50		
	(ENHANCED LIFE EXTENSION) PROTEIN (BERRY) - 4 bot of powder	144.00	108.00		
00290	(DESIGNER WHEY) PROTEIN - Vanilla 2 lbs of powder	42.49	31.87		
	(DESIGNER WHEY) PROTEIN - 4 bottles of Vanilla powder	154.00	115.50		
00282	(DESIGNER WHEY) PROTEIN - Chocolate 2 lbs of powder	42.49	31.87		
	(DESIGNER WHEY) PROTEIN - 4 bottles of Chocolate powder	154.00	115.50		
00283	(DESIGNER WHEY) PROTEIN - Natural 2 lbs of powder	42.49	31.87		
	(DESIGNER WHEY) PROTEIN - 4 bottles of Natural powder	154.00	115.50		
01056	PURE-GAR® - 200 caps	24.95	18.71		
	PURE-GAR® - 4 bottles of 200 caps	84.00	63.00		
01209	(WATER-SOLUBLE) PUMPKIN SEED EXTRACT - 60 veg. caps	20.00	15.00		
	(WATER-SOLUBLE) PUMPKIN SEED EXTRACT - 4 bottles 60 veg. caps	72.00	54.00		
01210	(WATER-SOLUBLE) PUMPKIN SEED EXT w/SOY ISOFLAVONES - 60 veg. caps	22.00	16.50		
	(WATER-SOLUBLE) PUMPKIN SEED EXT w/SOY ISOFLAVONES - 4 bottles 60 veg.	80.00	60.00		
01031	PYCNOGENOL® - 60 veg. caps	86.95	65.21		
* Product cannot be sold outside the USA.					
<b>SUB-TOTAL OF COLUMN 14</b>					

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



No.		Retail	Member Price	Qty	Total
01207	PYRIDOXAMINE CAPS - 50 mg, 60 veg. caps	\$22.00	\$16.50		
	PYRIDOXAMINE CAPS - 4 bottles of 60 veg. caps	79.20	59.40		
<b>Q, R</b>					
01309	(OPTIMIZED) QUERCETIN - 250 mg, 60 veg. caps	\$18.00	\$13.50		
	(OPTIMIZED) QUERCETIN - 4 bottles of 60 veg. caps	68.00	51.00		
01030	RED YEAST RICE (Bluebonnet)- 600 mg, 60 veg. caps	16.95	12.71		
00979	RED YEAST RICE (Nature's Plus)- 600 mg, 60 veg. caps	23.20	17.40		
00060	RED YEAST RICE EXTENDED RELEASE (Nature's Plus)- 30 veg. tablets	20.55	15.41		
00605	REGIMINT® - 60 enteric-coated caps	19.95	14.96		
	REGIMINT® - 4 bottles of 60 caps	74.68	56.01		
00448	REJUVENEX® BODY LOTION - 6 oz tube	24.00	18.00		
	REJUVENEX® BODY LOTION - 4 tubes	79.20	59.40		
	REJUVENEX® BODY LOTION - 8 tubes	136.00	102.00		
00918	REJUVENEX® FACTOR - 1.7 oz Airless pump bottle	65.00	48.75		
	REJUVENEX® FACTOR - 2 bottles	120.00	90.00		
	REJUVENEX® FACTOR - 4 bottles	220.00	165.00		
	REJUVENEX® FACTOR - 8 bottles	399.28	299.46		
01220	(ULTRA) REJUVENEX® - 2 oz jar	52.00	39.00		
	(ULTRA) REJUVENEX® - 2 jars	96.00	72.00		
	(ULTRA) REJUVENEX® - 4 jars	176.00	132.00		
	(ULTRA) REJUVENEX® - 8 jars	319.44	239.38		
00676	(ULTRA) REJUVENIGHT (DREAM CREAM) - 2 oz jar	39.95	29.96		
	(ULTRA) REJUVENIGHT (DREAM CREAM) - 4 jars	144.00	108.00		
00706	(ULTRA) REJUVENIGHT w/PROGESTERONE - 2 oz jar	42.00	31.50		
	(ULTRA) REJUVENIGHT w/PROGESTERONE - 4 jars	152.00	114.00		
01413	RESVERATROL w/PTEROSTILBENE - 20 mg, 60 veg. caps	24.00	18.00		
	RESVERATROL w/PTEROSTILBENE - 4 bottles of 60 veg. caps	88.00	66.00		
01410	RESVERATROL w/PTEROSTILBENE - 100 mg, 60 veg. caps	36.00	27.00		
	RESVERATROL w/PTEROSTILBENE - 4 bottles of 60 veg. caps	128.00	96.00		
01430	(OPTIMIZED) RESVERATROL w/SYNERGISTIC GRAPE-BERRY ACTIVES - 250 mg, 60 veg. caps	46.00	34.50		
	(OPTIMIZED) RESVERATROL w/SYNERGISTIC GRAPE-BERRY ACTIVES - 4 bottles of 60 veg. caps	165.32	124.00		
00889	RHODIOLA EXTRACT - 250 mg, 60 veg. caps	11.75	8.81		
	RHODIOLA EXTRACT - 4 bottles of 60 veg. caps	42.32	31.74		
00972	(D) RIBOSE POWDER - 150 grams of powder	27.50	20.63		
	(D) RIBOSE POWDER - 4 jars of 150 grams	99.00	74.25		
01473	(D) RIBOSE CAPS - 100 veg. tabs	32.00	24.00		
	(D) RIBOSE CAPS - 4 bottles of 100 veg. tabs	112.00	84.00		
01208	(SUPER) R-LIPOIC ACID - 300 mg, 60 veg. caps	49.00	36.75		
	(SUPER) R-LIPOIC ACID - 4 bottles of 60 veg. caps	180.00	135.00		
00070	RNA CAPSULES - 500 mg, 100 caps	17.95	13.46		
	RNA CAPSULES - 4 bottles of 100 caps	64.64	48.48		
00917	ROSMARINIC ACID EXTRACT - 60 veg. caps	59.00	44.25		
	ROSMARINIC ACID EXTRACT - 4 bottles of 60 veg. caps	212.00	159.00		
<b>S</b>					
01067	(JARROW) SACCHAROMYCES BOULARDII + MOS - 30 veg. caps	\$9.95	\$7.46		
01082	(JARROW) SACCHAROMYCES BOULARDII + MOS - 90 veg. caps	21.95	16.46		
01432	(OPTIMIZED) SAFFRON w/SATIEREAL - 60 veg. caps	36.00	27.00		
	(OPTIMIZED) SAFFRON w/SATIEREAL - 4 bottles of 60 veg. caps	128.00	96.00		
**00573	SAMBU GUARD - 175 ml	17.49	13.99		
00358	SAME (S-ADENOSYL-METHIONINE) - 200 mg, 20 enteric coated tablets	18.95	14.21		
	SAME (S-ADENOSYL-METHIONINE) - 8 boxes of 20 enteric coated tablets	132.80	99.60		
00453	SAME (S-ADENOSYL-METHIONINE) - 200 mg, 50 enteric coated tablets	45.00	33.75		
	SAME (S-ADENOSYL-METHIONINE) - 4 bottles of 50 enteric coated tablets	156.00	117.00		
<b>SUB-TOTAL OF COLUMN 15</b>					

No.		Retail	Member Price	Qty	Total
00557	SAME (S-ADENOSYL-METHIONINE) - 400 mg, 20 enteric coated tablets	\$35.00	\$26.25		
	SAME (S-ADENOSYL-METHIONINE) - 6 boxes of 20 enteric coated tablets	168.00	126.00		
01055	SAME (S-ADENOSYL-METHIONINE) - 400 mg, 50 tablets	78.00	58.50		
	SAME (S-ADENOSYL-METHIONINE) - 4 bottles of 50 tablets	280.00	210.00		
01043	SEA-IODINE™ - 1000 mcg, 60 veg. caps	8.00	6.00		
	SEA-IODINE™ - 4 bottles of 60 veg. caps	28.80	21.60		
00046	SELENIUM - 2 oz dropper bottle	9.45	7.09		
	SELENIUM - 4 bottles of 2 oz bottle	36.00	27.00		
00567	SE-METHYLSelenocysteine - 200 mcg, 100 caps	12.00	9.00		
	SE-METHYLSelenocysteine - 4 bottles of 100 caps	44.00	33.00		
00318	SERRAFLAZYME - 100 tablets	18.00	13.50		
	SERRAFLAZYME - 4 bottles of 100 tablets	64.00	48.00		
00284	SHARK LIVER OIL (NORWEGIAN) - 1000 mg, 30 softgels	18.00	13.50		
	SHARK LIVER OIL (NORWEGIAN) - 4 bottles of 30 softgels	64.00	48.00		
00184	SILYMARIN - 100 mg, 50 caps	9.25	6.94		
	SILYMARIN - 4 bottles of 50 caps	33.00	24.75		
00702	(MEGA) SILYMARIN WITH ISOSILYBIN B - 100 caps	42.00	31.50		
	(MEGA) SILYMARIN WITH ISOSILYBIN B - 4 bottles of 100 caps	152.00	114.00		
00872	SLIMSTYLES PGX® - 6.4 oz powder	22.95	17.21		
00961	SODZYME® W/GLISODIN® AND WOLFBERRY - 90 veg. caps	28.00	21.00		
	SODZYME® W/GLISODIN® AND WOLFBERRY - 4 bottles of 90 veg. caps	96.00	72.00		
00657	SOLARSHIELD SUNGLASSES - 1 pair smoke color	12.99	9.74		
	SOLARSHIELD SUNGLASSES - 2 pair smoke color	23.00	17.25		
01097	(ULTRA) SOY EXTRACT - 150 veg. caps	87.00	65.25		
	(ULTRA) SOY EXTRACT - 4 bottles of 150 veg. caps	312.00	234.00		
00304	SOY POWER POWDER - 300 grams of powder	31.50	23.63		
	SOY POWER POWDER - 4 bottles of powder	114.00	85.50		
00286	SOY PROTEIN POWDER (concentrated soy protein) - 16 oz of powder	12.00	9.00		
	SOY PROTEIN POWDER - 4 bottles of powder	42.50	31.87		
00432	STEVIA EXTRACT - 100 packets, 1 gram each	9.95	7.46		
	STEVIA EXTRACT - 4 boxes of 100 packets	36.00	27.00		
00351	ST. JOHN'S WORT EXTRACT - 300 mg, 60 caps	10.98	8.24		
	ST. JOHN'S WORT EXTRACT - 4 bottles of 60 caps	40.00	30.00		
00327	ST. JOHN'S WORT EXTRACT (PLANETARY) - 600 mg, 60 tablets	16.75	12.56		
	ST. JOHN'S WORT EXTRACT (PLANETARY) - 4 bottles of 60 tablets	55.40	41.55		
00971	SUN PROTECTION SPRAY w/BETA GLUCAN - SPF30 - 6 oz bottle	14.95	11.21		
	SUN PROTECTION SPRAY w/BETA GLUCAN - SPF30 - 4 bottles, 6 oz	54.00	40.50		
00747	(OVERXCAST POLARIZED) SUNGLASSES - gray color, large	27.00	20.25		
	(OVERXCAST POLARIZED) SUNGLASSES - 2 pairs, gray color	42.00	31.50		
00748	(OVERXCAST POLARIZED) SUNGLASSES - gray color, medium	27.00	20.25		
	(OVERXCAST POLARIZED) SUNGLASSES - 2 pairs, gray color	42.00	31.50		
00758	SUPER ABSORBABLE SOY ISOFLAVONES - 60 caps	28.00	21.00		
	SUPER ABSORBABLE SOY ISOFLAVONES - 4 bottles of 60 caps	100.00	75.00		
01408	SUPER SAW PALMETTO/NETTLE ROOT w/BETA-SITOSTEROL	28.00	21.00		
	60 softgels				
	SUPER SAW PALMETTO/NETTLE ROOT w/BETA-SITOSTEROL	104.00	78.00		
	4 bottles of 60 softgels				
	SUPER SAW PALMETTO/NETTLE ROOT w/BETA-SITOSTEROL	288.00	216.00		
	One-year supply				
01407	SUPER SAW PALMETTO w/BETA-SITOSTEROL - 30 softgels	15.00	11.25		
	SUPER SAW PALMETTO w/BETA-SITOSTEROL - 12 bottles of 30 softgels	144.00	108.00		
<b>** These products are not 25% off retail price.</b>					
<b>SUB-TOTAL OF COLUMN 16</b>					

# Buyers Club Order Form

To order call: 1.954.766.8433 or 1.800.544.4440

No.		Retail	Member Price	Qty	Total
<b>S</b> CONTINUED					
00578	<b>SUPER SELENIUM COMPLEX</b> - 200 mcg, 100 caps	\$12.00	\$9.00		
	<b>SUPER SELENIUM COMPLEX</b> - 4 bottles of 100 caps	40.00	30.00		
	<b>SUPER SELENIUM COMPLEX</b> - 12 bottles of 100 caps	108.00	81.00		
00674	<b>SYTRINOL™</b> - 60 softgels	32.00	24.00		
	<b>SYTRINOL™</b> - 4 bottles of 60 softgels	112.00	84.00		
<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 (FRUIT ADVANTAGE)</b> - 600 mg, 60 caps	\$18.95	\$14.21		
00199	<b>TAURINE CAPSULES</b> - 1000 mg, 50 caps	8.95	6.71		
	<b>TAURINE CAPSULES</b> - 4 bottles of 50 caps	32.00	24.00		
00133	<b>TAURINE POWDER</b> - 300 grams, powder	20.00	15.00		
	<b>TAURINE POWDER</b> - 4 bottles of powder	67.52	50.64		
01304	<b>THEAFLAVIN STANDARDIZED EXTRACT</b> - 30 veg. caps	18.00	13.50		
	<b>THEAFLAVIN STANDARDIZED EXTRACT</b> - 4 bottles of 30 veg. caps	64.00	48.00		
00555	<b>(L) THEANINE</b> - 100 mg, 60 caps	24.00	18.00		
	<b>(L) THEANINE</b> - 4 bottles of 60 caps	82.00	61.50		
*01038	<b>THERALAC</b> - 30 caps	44.95	33.71		
00224	<b>THYMIC IMMUNE FACTORS</b> - 100 caps	18.00	13.50		
	<b>THYMIC IMMUNE FACTORS</b> - 4 bottles of 100 caps	56.00	42.00		
00668	<b>(METABOLIC ADVANTAGE) THYROID FORMULA</b> - 100 caps	17.95	13.46		
00349	<b>TMG</b> - 50 grams of powder	14.00	10.50		
	<b>TMG</b> - 4 bottles of powder	44.00	33.00		
00359	<b>TMG TABLETS</b> - 500 mg, 180 tablets	18.00	13.50		
	<b>TMG TABLETS</b> - 4 bottles of 180 tablets	62.00	46.50		
00366	<b>TOCOTRIENOLS</b> - 50 mg, 60 softgel caps	39.95	29.96		
	<b>TOCOTRIENOLS</b> - 4 bottles of 60 softgel caps	144.00	108.00		
00781	<b>TOCOTRIENOLS WITH SESAME LIGNANS</b> - 60 softgels	38.00	28.50		
	<b>TOCOTRIENOLS WITH SESAME LIGNANS</b> - 4 bottles of 60 softgels	144.00	108.00		
01400	<b>(SUPER-ABSORBABLE) TOCOTRIENOLS</b> - 60 softgels	30.00	22.50		
	<b>(SUPER-ABSORBABLE) TOCOTRIENOLS</b> - 4 bottles of 60 softgels	112.00	84.00		
01274	<b>TOTAL SUN PROTECTION CREAM W/BETAGLUCANS</b> - SPF 30, 4 oz Tube & PHOTO-AGING RECOVERY COMPLEX	28.00	21.00		
	<b>TOTAL SUN PROTECTION CREAM W/BETAGLUCANS</b> - 4-4 oz Tubes & PHOTO-AGING RECOVERY COMPLEX	100.80	75.60		
01468	<b>TRIPLE ACTION CRUCIFEROUS VEGETABLE EXTRACT</b> - 60 veg. caps	24.00	18.00		
	<b>TRIPLE ACTION CRUCIFEROUS VEGETABLE EXTRACT</b> - 4 bot 60 veg. caps	88.00	66.00		
01469	<b>TRIPLE ACTION CRUCIFEROUS VEGETABLE EXTRACT W/RESVERATROL</b> - 60 veg. caps	32.00	24.00		
	<b>TRIPLE ACTION CRUCIFEROUS VEGETABLE EXTRACT w/RESVERATROL</b> - 4 bottles	118.40	88.80		
01046	<b>TRIPLE ACTION UNDER EYE REJUVENATOR</b> - 0.5 oz pump	24.00	18.00		
	<b>TRIPLE ACTION UNDER EYE REJUVENATOR</b> - 4 boxes	88.00	66.00		
00866	<b>TRYPTOPURE® L-TRYPTOPHAN</b> - 500 mg, 90 veg. caps	38.00	28.50		
	<b>TRYPTOPURE® L-TRYPTOPHAN</b> - 4 bottles of 90 veg. caps	136.00	102.00		
01202	<b>(OPTIMIZED) TRYPTOPURE® PLUS</b> - 90 veg. caps	40.00	30.00		
	<b>(OPTIMIZED) TRYPTOPURE® PLUS</b> - 4 bottles of 90 veg. caps	144.00	108.00		
00326	<b>L-TYROSINE TABLETS</b> - 500 mg, 100 tablets	12.50	9.38		
	<b>L-TYROSINE TABLETS</b> - 4 bottles of 100 tablets	45.68	34.26		
<b>U</b>					
* 00310	<b>UDO'S CHOICE®</b> - 17 oz liquid (omega fatty acids)	\$27.49	\$21.99		
* 00311	<b>UDO'S CHOICE®</b> - 1000 mg, 180 caps	33.79	27.03		
* 00322	<b>UDO'S CHOICE® WHOLESOME FAST FOOD</b> - 1 lb bottle	27.49	21.99		
01061	<b>ULTIMATE FLORA ADVANCED IMMUNITY</b> - 30 caps	29.99	22.49		

**SUB-TOTAL OF COLUMN 17**

No.		Retail	Member Price	Qty	Total
<b>V</b>					
00213	<b>VANADYL SULFATE</b> - 7.5 mg, 100 tablets	\$15.00	\$11.25		
	<b>VANADYL SULFATE</b> - 4 bottles of 100 tablets	50.00	37.50		
01018	<b>VASCULAR PROTECT</b> - 120 vegetarian caps	48.00	36.00		
	<b>VASCULAR PROTECT</b> - 4 bottles of 120 vegetarian caps	180.00	135.00		
00252	<b>VELVET DEER ANTLER</b> - 250 mg, 30 caps	36.00	27.00		
	<b>VELVET DEER ANTLER</b> - 4 bottles of 30 caps	136.00	102.00		
00408	<b>VENOTONE</b> - 60 caps	18.95	14.21		
	<b>VENOTONE</b> - 4 bottles of 60 caps	64.00	48.00		
00427	<b>VINPOCETINE</b> - 5 mg, 100 tablets	18.00	13.50		
	<b>VINPOCETINE</b> - 4 bottles of 100 tablets	56.00	42.00		
01033	<b>VISION OPTIMIZER</b> - 90 caps	29.95	22.46		
01098	<b>VITAL GREENS MIX</b> - 319.5 grams of powder	48.00	36.00		
	<b>VITAL GREENS MIX</b> - 4 jars of powder	176.00	132.00		
00091	<b>VITAMIN B1 CAPS</b> - 500 mg, 100 caps	16.99	12.74		
	<b>VITAMIN B1 CAPS</b> - 4 bottles of 100 caps	60.68	45.51		
00093	<b>VITAMIN B2 CAPS</b> - 100 mg, 100 caps	12.99	9.74		
	<b>VITAMIN B2 CAPS</b> - 4 bottles of 100 caps	47.52	35.64		
00096	<b>VITAMIN B3 (NIACIN)</b> - 1000 mg, 100 caps	12.75	9.56		
	<b>VITAMIN B3 (NIACIN)</b> - 4 bottles of 100 caps	48.00	36.00		
00372	<b>VITAMIN B3 (NIACIN)</b> - 500 mg, 100 caps	7.65	5.74		
	<b>VITAMIN B3 (NIACIN)</b> - 4 bottles of 100 caps	26.60	19.95		
00098	<b>VITAMIN B5 CAPS</b> - 500 mg, 100 caps (Pantothenic Acid)	10.50	7.88		
	<b>VITAMIN B5 CAPS</b> - 4 bottles of 100 caps	37.52	28.14		
00556	<b>VITAMIN B6 CAPS</b> - 250 mg, 100 caps	12.50	9.38		
	<b>VITAMIN B6 CAPS</b> - 4 bottles of 100 caps	44.00	33.00		
00361	<b>VITAMIN B12 TABLETS</b> - 500 mcg, 100 dissolve-in-mouth tablets	8.75	6.56		
	<b>VITAMIN B12 TABLETS</b> - 4 bottles of 100 dissolve-in-mouth tablets	29.00	21.75		
00927	<b>VITAMIN C WITH DIHYDROQUERCETIN</b> - 1000 mg, 250 tablets	25.50	19.13		
	<b>VITAMIN C WITH DIHYDROQUERCETIN</b> - 4 bottles of 250 tablets	93.00	69.75		
00084	<b>(BUFFERED) VITAMIN C POWDER</b> - 454.6 grams of powder	23.95	17.96		
	<b>(BUFFERED) VITAMIN C POWDER</b> - 4 bottles of powder	88.00	66.00		
00864	<b>VITAMIN D</b> - 2000 IU, 1 fl oz	28.00	21.00		
	<b>VITAMIN D</b> - 4 bottles of 1 fl oz	100.00	75.00		
00251	<b>VITAMIN D3 CAPS</b> - 1000 IU, 250 caps	12.50	9.38		
	<b>VITAMIN D3 CAPS</b> - 4 bottles of 250 caps	45.00	33.75		
00713	<b>VITAMIN D3 CAPS</b> - 5000 IU, 60 caps	11.00	8.25		
	<b>VITAMIN D3 CAPS</b> - 4 bottles of 60 caps	39.60	29.70		
01418	<b>VITAMIN D3 CAPS</b> - 7000 IU, 60 caps	14.00	10.50		
	<b>VITAMIN D3 CAPS</b> - 4 bottles of 60 caps	50.40	37.80		
01371	<b>VITAMIN D3 w/SEA-IODINE</b> - 1000 IU, 250 veg. caps	22.00	16.50		
	<b>VITAMIN D3 w/SEA-IODINE</b> - 4 bottles of 250 veg. caps	80.00	60.00		
01372	<b>VITAMIN D3 w/SEA-IODINE</b> - 5000 IU, 60 veg. caps	14.00	10.50		
	<b>VITAMIN D3 w/SEA-IODINE</b> - 4 bottles of 60 veg. caps	50.00	37.50		
00063	<b>VITAMIN E CAPS (NATURAL)</b> - 400 IU, 100 caps	18.75	14.06		
	<b>VITAMIN E CAPS (NATURAL)</b> - 4 bottles of 100 caps	69.00	51.75		
	<b>VITAMIN E CAPS (NATURAL)</b> - 10 bottles of 100 caps	150.00	112.50		
01225	<b>(LOW-DOSE) VITAMIN K2 (MK-7)</b> - 45 mcg, 90 softgels	18.00	13.50		
	<b>(LOW-DOSE) VITAMIN K2 (MK-7)</b> - 4 bottles of 90 softgels	64.00	48.00		

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

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

**SUB-TOTAL OF COLUMN 18**



No.		Retail	Member Price	Qty	Total
<b>Z</b>					
00986	(SUPER) ZEAXANTHIN W/LUTEIN & MESO-ZEAXANTHIN - 60 softgels	\$22.00	\$16.50		
	(SUPER) ZEAXANTHIN W/LUTEIN & MESO-ZEAXANTHIN - 4 bottles	79.20	59.40		
01286	(SUPER) ZEAXANTHIN W/LUTEIN & MESO-ZEAXANTHIN PLUS ASTAXANTHIN - 60 softgels	42.00	31.50		
	(SUPER) ZEAXANTHIN W/LUTEIN & MESO-ZEAXANTHIN PLUS ASTAXANTHIN - 4 bottles of 60 softgels	152.00	114.00		
00061	ZINC LOZENGES WITH VITAMIN C - 75 lozenges	9.50	7.13		
	ZINC LOZENGES WITH VITAMIN C - 4 bottles of 75 lozenges	27.00	20.25		
01051	ZYFLAMEND - 120 softgels	60.95	45.71		
01029	ZYFLAMEND EASYCAPS - 180 caps	31.95	23.96		
<b>SUB-TOTAL OF COLUMN 19</b>					

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Our 30-year track record shows that we have been five to ten years ahead of conventional and alternative medicine in making new life-saving therapies available to our members.

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

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

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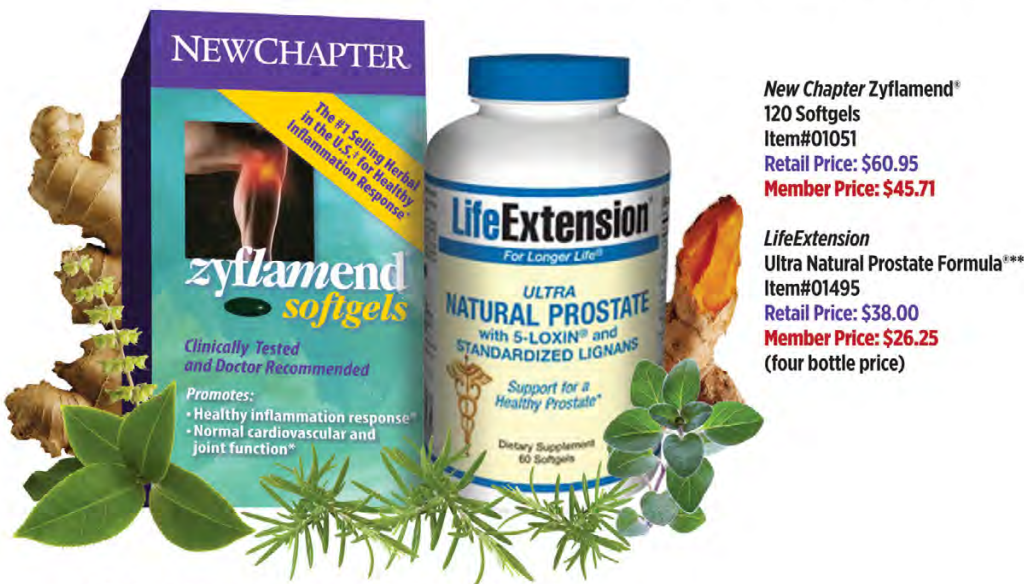
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# A Partnership in Men's Health

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120 Softgels  
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**ZYFLAMEND®** is the #1 selling herbal for a healthy inflammation response.<sup>†</sup> Containing hundreds of bioactive constituents, including ten of the most researched botanicals, it provides a multitude of healthy advantages in addition to its positive inflammation properties. Recent research studies suggest daily Zyflamend supplementation may be an effective strategy to modulate inflammation and promote healthy prostate function, normal cell growth, healthy aging, and healthy joint and heart function.\*

Zyflamend is the subject of ongoing research at preeminent research centers in the United States and represents a scientific breakthrough in the maintenance of a healthy inflammation response.\*

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Men may not talk openly about prostate health but it's something they need to pay attention to, especially if they're over 40. Beyond that age, physiologic factors such as hormone imbalance, inflammation, and oxidative stress can begin to affect the size of the prostate, as well as the integrity of its cellular DNA. Fortunately, scientific evidence suggests herbal therapeutics and supplemental nutrients—especially those that support hormone balance, promote a healthy inflammation response, and modulate oxidative stress—are incredibly valuable for supporting and maintaining prostate health.\*

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Emerging scientific evidence suggests the inflammatory response can affect the growth of prostate cells. Inflammation, particularly the kind generated by activation of an inflammatory enzyme called 5-lipoxygenase (5LX), is thought to affect cellular DNA, disrupting the mechanisms responsible for maintaining normal cell growth and replication.\* Consequently, modulating 5LX is a key strategy for maintaining prostate health.\*

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(Vaccinium angustifolium)	
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- **Alpha-glycerol phosphoryl choline (A-GPC)** boosts acetylcholine, a critical neurotransmitter that declines with age.
- **Vinpocetine** enhances circulation and oxygenation to brain cells, improves neural electrical conductivity, and protects against neuron-destroying excitotoxicity.
- **Phospholipid-grape seed extract** bound together results in a compound that is better absorbed into the bloodstream where it improves blood vessel tone and elasticity, thus enhancing blood circulation and oxygen flow to the brain.
- **Wild blueberry extract** protects against free-radical damage in the brain and helps maintain fluid balances already within the normal range.
- **Sensoril® ashwagandha extract** helps alleviate mental fatigue by inhibiting an enzyme (acetylcholinesterase) that degrades acetylcholine in the aging brain.
- **Proprietary NeuroProtection Complex Blend** contains standardized extracts of **hops, ginger, and rosemary** — proven to help with inflammation.
- **Pregnenolone** is a hormone that may be especially beneficial to the brain.

The retail price for 90 softgels of Cognitex (with or without pregnenolone) is \$74 (item #00922) and \$72 (item #00921), respectively. If a member orders four bottles of either version, the price per bottle is reduced to just **\$49.95** and **\$48**, respectively.

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

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

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

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



## WHAT'S INSIDE

# LifeExtension® Magazine

### **CURB COMPULSIVE EATING** (Page 26)



A landmark study reveals that the brain chemistry behind compulsive eating and *drug addiction* is identical. A newly discovered saffron extract has been shown to modulate these neurochemical factors and curb appetite safely.

### **COMBATING THE “DIABESITY” EPIDEMIC** (Page 38)



Obesity-driven diabetes or “diabesity” is fast becoming the greatest epidemic in human history. Yet conventional medicine's inadequate response is failing its victims. **Life Extension®** examines the overlooked causes and offers a *multimodal* preventive strategy.

### **OMEGA-3 BOOSTS BRAIN VOLUME** (Page 54)



People who consume more omega-3 fatty acids have larger, more functional brains. Discover how the proper dose of omega-3s wards off mental illness, age-related neurological disorders, and even *reverses* aspects of brain aging.

### **PROTECTION FROM DEADLY DIAGNOSTIC RADIATION** (Page 66)



Rampant misuse of CT scans and X-ray imaging has finally drawn attention to their lethal effects. Here we detail an optimal *radioprotective* nutritional regimen, including polyphenols, trace minerals, and antioxidant compounds in case you need an X-ray or CT scan.

## PLUS

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