

OUTLANDISHLY EXPENSIVE CANCER DRUGS

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

April 2014

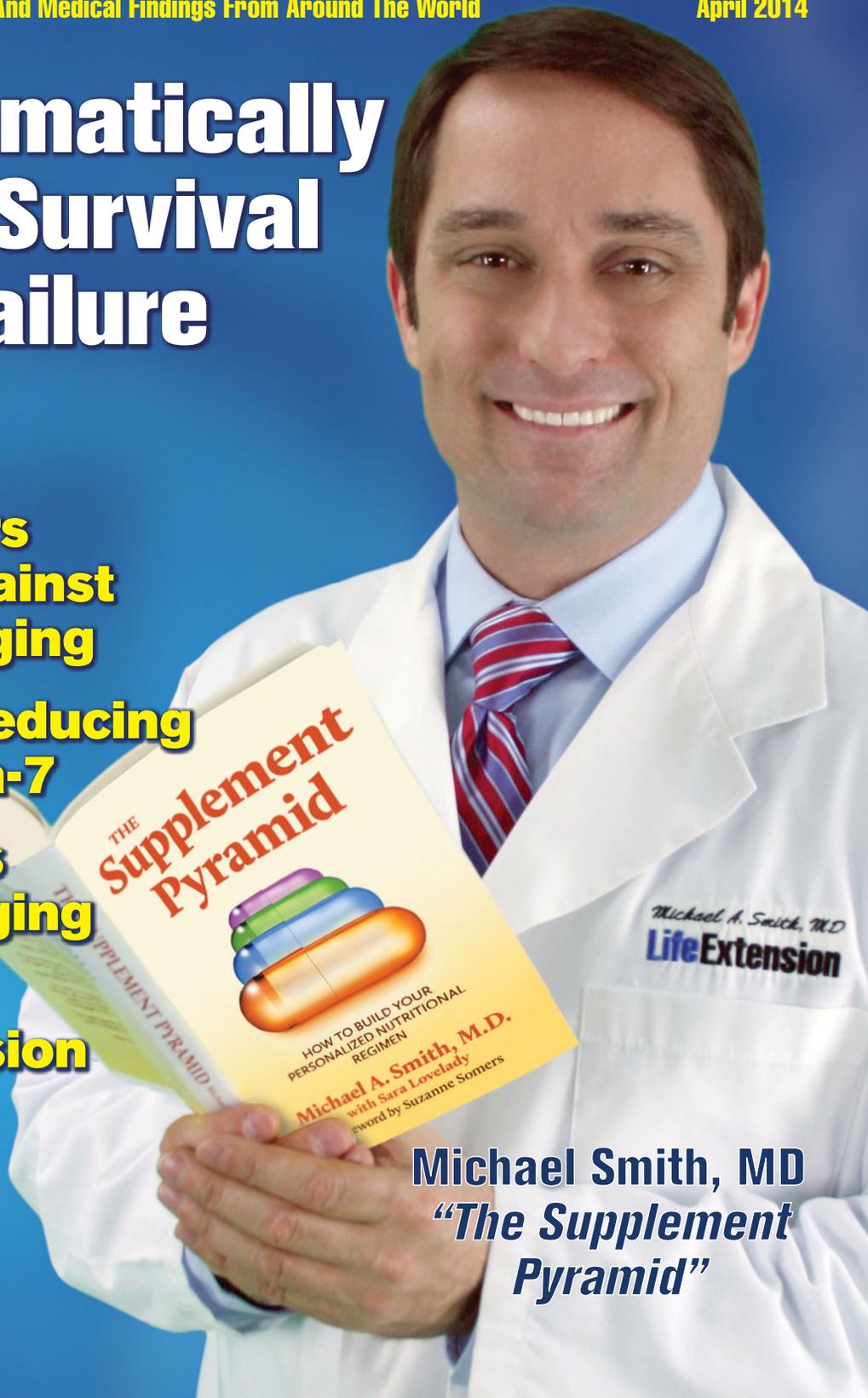
CoQ10 Dramatically Improves Survival in Heart Failure Patients

Google Founders Declare War Against Degenerative Aging

Inflammation Reducing Effect of Omega-7

Topical Peptides Combat Skin Aging

SAMe: Benefits Beyond Depression



Michael Smith, MD
"The Supplement Pyramid"



Super Potent Multi-Nutrient Formula

Compare CENTRUM® to TWO-PER-DAY:

Sample Ingredient Comparison	Life Extension® Two-Per-Day	Centrum® Silver® Adults 50+
Vitamin C	500 mg	60 mg
Vitamin D3	2,000 IU	500 IU
Vitamin B1	75 mg	1.5 mg
Vitamin B2	50 mg	1.7 mg
Vitamin B6	75 mg	3 mg
Vitamin B12 (as methylcobalamin)	300 mcg	25 mcg
Niacin (as niacinamide)	50 mg	20 mg
Pantothenic acid	100 mg	10 mg
Vitamin E	100 IU (natural)	50 IU (synthetic)
Natural Folate	400 mcg	400 mcg (synthetic)
Zinc	30 mg	11 mg
Selenium	200 mcg	55 mcg
Lutein	5,000 mcg	250 mcg
Lycopene	2,000 mcg	300 mcg
Biotin	300 mcg	30 mcg
Boron	3,000 mcg	150 mcg
Chromium	200 mcg	45 mcg
Molybdenum	100 mcg	45 mcg
Magnesium	100 mg	50 mg
Manganese	2 mg	2.3 mg
Iodine	150 mcg	150 mcg
Potassium	25 mg	80 mg
Vitamin A (as beta-carotene)	4,500 IU	1,000 IU
Vitamin A (preformed)	500 IU	1,500 IU
Choline (as bitartrate)	20 mg	(none)
Inositol	50 mg	(none)
Calcium	12 mg	220 mg
Alpha Lipoic Acid	25 mg	(none)
Natural Mixed Tocopherols (providing gamma, delta, alpha, and beta tocopherols)	20 mg	(none)

Commercial “one-a-day” supplements provide very low potencies.

The chart to the left reveals how much more potent **Two-Per-Day** is compared to the leading commercial multi-vitamin.

Compared to “one-a-day” products, **Life Extension® Two-Per-Day** contains up to **50 times more** potency! This **Two-Per-Day** formula is available in tablet or capsule form.

Commercial supplements often contain the cheapest form of nutrients that fail to provide optimal benefits. For example, the 50 IU of synthetic vitamin E contained in **Centrum® Silver® Adults 50+** may provide relatively little vitamin E to the bloodstream compared to the 100 IU of natural vitamin E in **Two-Per-Day**.

Two-Per-Day provides the three most effective forms of **selenium** which are sodium selenite, L-selenomethionine, and Se-methyl L-selenocysteine, plus **alpha lipoic acid**.



Item # 01814
Capsules



Item # 01815
Tablets

Compared to Centrum® Silver® Adults 50+,
Two-Per-Day Tablets or Capsules provide about:

- 4 times more Vitamin D
- 8 times more Vitamin C
- 2 times more Vitamin E
- 10 times more Biotin
- 20 times more Boron
- 4 times more Selenium
- 25 times more Vitamin B6
- 50 times more Vitamin B1
- 12 times more Vitamin B12
- More than twice as much niacin, zinc, and many other nutrients

A bottle containing 120 tablets of **Two-Per-Day Tablets** retails for \$20. If a member buys four bottles, the price is reduced to **\$13.50** per bottle. (Item #01815)

A bottle containing 120 capsules of **Two-Per-Day Capsules** retails for \$22. If a member buys four bottles, the price is reduced to **\$15** per bottle. (Item #01814)

Each bottle of **Two-Per-Day** lasts **60 days**, so members can obtain the benefits of this high-potency formula for as little as **\$6.75 per month**.

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

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

* The new two-per-day provides a small amount of gamma tocopherol as part of natural mixed tocopherols which includes natural vitamin E.



Ratings based on results of the 2013 ConsumerLab.com Survey of Supplement Users. More information at www.consumerlab.com.

Contains soybeans. Due to the source of the kelp, this product may contain fish and shellfish.

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 OMEGA-7 PROTECTS AGAINST METABOLIC SYNDROME

Scientists have uncovered a specific type of **omega-7** that is so unique that **Harvard Medical School** has applied for a patent on it. **Omega-7** mitigates many of the underlying factors involved in **metabolic syndrome** by reducing the risk of type II diabetes, increasing beneficial HDL, reducing inflammation, and helping to prevent the buildup of arterial plaque.



50 SAME: BENEFITS BEYOND DEPRESSION

Research has shown that SAME is often just as effective as certain drugs in alleviating depression and boosting mood health. Going beyond depression, scientists have now found a wealth of anti-aging benefits of SAME in protecting against Alzheimer's, osteoarthritis, liver disease, and encouraging critical DNA repair.



62 GOOGLE WANTS TO EXTEND YOUR LIFE SPAN

While government and private funds are spent attempting to find cures for *specific* diseases, little funding has been focused on curing the **disease of aging**. But now behemoth **Google** has committed significant money to undertake visionary projects aimed at eventually reversing the aging process. Ideally, Google's bold step will encourage more wealthy individuals to support age-reversal research.



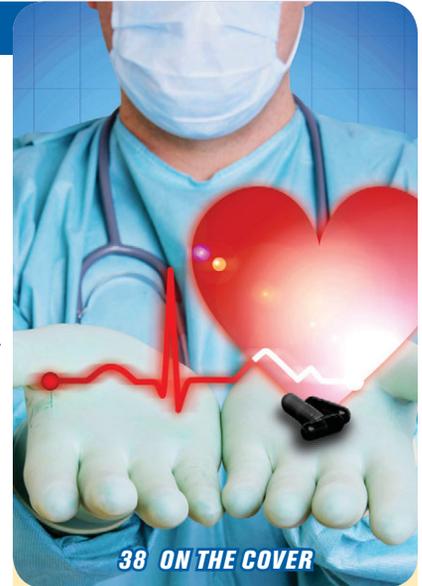
74 NOVEL PEPTIDES TARGET WRINKLE FORMATION

Fine lines and wrinkles occur when environmental factors overwhelm the body's ability to maintain critical biochemical processes, resulting in DNA damage and loss of skin elasticity. Scientists have discovered three **peptides** that work within skin cells to inhibit this aging effect. Studies show a **28% reversal** in the appearance of deep wrinkles within minutes, with results continuing for months.



82 THE SUPPLEMENT PYRAMID: BUILD A PERSONALIZED NUTRITION REGIMEN

Many people pursuing a healthy lifestyle are overwhelmed by the endless variety and choices of supplements. Life Extension's medical expert, Dr. Michael Smith has designed the three-tiered **Supplement Pyramid** tailored to meet specific, *personalized* nutritional needs.



38 ON THE COVER

CoQ10 PROVEN TO SAVE LIVES OF HEART FAILURE PATIENTS

A ten-year study published in the *European Journal of Heart Failure* demonstrated that CoQ10 dramatically improves survival in severe heart failure patients. The study went even further to show that those taking CoQ10 were less likely to die from heart failure, less likely to die from any cause, and half as likely to have a major cardiac event compared with control subjects.

DEPARTMENTS



7 AS WE SEE IT: UNSUSTAINABLE DRUG PRICES

A report authored by over **100** oncologists noted that of the twelve new cancer drugs approved in **2012**, eleven were priced above **\$100,000 a year!** These doctors conclude that the prices of many of these drugs "**are too high, unsustainable, may compromise access of needy patients to highly effective therapy, and are harmful to the sustainability of our national healthcare systems.**" These revelations from inside the cancer establishment will not surprise **Life Extension** members, who long ago learned how regulatory **strangleholds** over drug development inflict harsh economic pain



19 IN THE NEWS

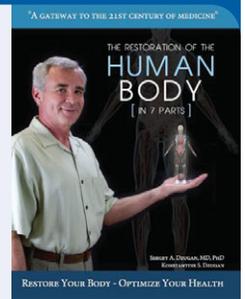
Multivitamins reduce risk of colorectal polyps; lower heart disease risk found with higher omega-3 intake; metformin benefits for prostate cancer; and much more.

91 AUTHOR INTERVIEW

In his latest book, *The Restoration of the Human Body*, Sergey A. Dzugan, MD, PhD addresses an overlooked cause of disease—the breakdown in the ratios of hormones within the body, along with a lack of minerals and vitamins.

95 WELLNESS PROFILE

Ross Pelton R. Ph., author of the new book *The Pill Problem*, believes that oral contraceptives and other prescription drugs are a major cause of nutrient deficiency. This long-time Life Extension® member explains that a good overall nutritional supplement program can compensate for the majority of drug-induced side effects.





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Are You Obtaining Enough TAURINE?

Taurine is so vital that scientists have described it as "**one of the most essential substances in the body.**"¹ Food sources provide relatively little taurine,^{2,3} and as we age, synthesis of taurine in our bodies (from cysteine) markedly declines.³⁻⁵

Fortunately, taurine is one of the **lowest-cost** nutrients, making it affordable to supplement with optimal doses.



Item# 00199

SYSTEM-WIDE HEALTH BENEFITS

Taurine is one of the most abundant amino acids.^{1,6} Extensive studies have demonstrated the ability of **taurine** to support:

- Insulin sensitivity and glucose utilization,^{7,8}
- Proper utilization of minerals such as calcium,¹
- Eye health,^{1,9,10}
- Regulation of the central nervous system,⁶
- Cell membrane stability⁶ and balanced water content (*osmoregulation*),^{11,12}
- Immune system modulation,^{11,13}
- Bile salt formation,¹¹
- Neuron integrity^{6,11} and cognitive function,¹⁴
- Liver function,¹⁵ and
- Cardiovascular health.^{12,16,17}

To promote **system-wide** health, the body requires adequate levels of this *essential* nutrient.^{1,11,18}

ULTRA-LOW COST

A bottle of 50 **1,000 mg** capsules of **Life Extension® Taurine** retails for **\$8.95**. If a member buys four bottles, the price is reduced to **\$6** per bottle.

One capsule taken one to four times daily on an empty stomach, or as recommended by a healthcare practitioner, supports optimal taurine levels. **Taurine** may represent one of the better values on the nutritional supplement marketplace today.

To order Life Extension® Taurine, call 1-800-544-4440
or visit www.LifeExtension.com

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Aubrey de Grey, PhD, is a biomedical gerontologist and Editor-in-Chief of Rejuvenation Research, the world's highest-impact peer-reviewed journal focused on intervention in aging. He received his BA and PhD from the University of Cambridge in 1985 and 2000 respectively. Dr. de Grey is a Fellow of both the Gerontological Society of America and the American Aging Association and sits on the editorial and scientific advisory boards of numerous journals and organizations.



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



Frank Eichorn, MD, is a urologist specializing in prostate cancer for 10 years. He has a private practice in Bad Reichenhall, Germany, and is prostate cancer consultant at the Urologische Klinik Castrangius, Planegg, Munich. In his integrative approach to prostate cancer he is working together with an international network of experts to improve treatment outcomes for prostate cancer patients with a special focus on natural and translational medicine.



Deborah F. Harding, MD, is founder of the Harding Anti-Aging Center. She is double board-certified in internal medicine and sleep disorder medicine. She also earned the Cenegenis certification in age management medicine. She is a faculty member of the new University of Central Florida Medical School.



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



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



Dipnarine Maharaj MD, MB, ChB, FRCP (Glasgow), FRCP (Edinburgh), FRCPATH., FACP

Dr. Dipnarine Maharaj is the Medical Director of the South Florida Bone Marrow Stem Cell Transplant Institute and is regarded as one of the world's foremost experts on adult stem cells. He received his medical degree in 1978 from the University of Glasgow Medical School, Scotland. He completed his internship and residency in Internal Medicine and Hematology at the University's Royal Infirmary.



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



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



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ASTAXANTHIN Formula with *Increased Bio-availability*

Astaxanthin is a fat-soluble carotenoid compound. The challenge to deriving maximum benefits is its normally limited absorption—as low as about **50%**.^{1,2} Assimilation of astaxanthin is impeded by limited uptake and intestinal degradation.

Astaxanthin 4 mg with Phospholipids combines **4 milligrams** of natural astaxanthin with a *proprietary blend of phospholipids*.

By incorporating phospholipids, scientific study shows that carotenoid **absorption** may be enhanced **several-fold**.³

Astaxanthin 4 mg with Phospholipids uses four different phospholipids to facilitate maximum absorption of **astaxanthin** into the bloodstream, where it is transported to cells throughout the body.

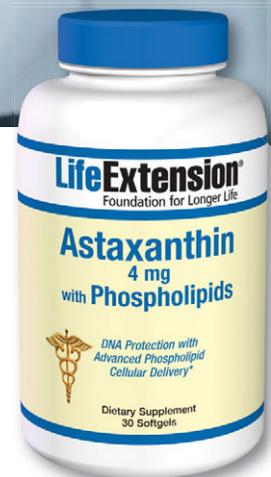
ASTAXANTHIN

Each softgel of **Astaxanthin with Phospholipids** provides **4 mg** of natural astaxanthin along with **80 mg** of proprietary phospholipid blend. Just one softgel a day provides tremendous systemic cellular support!

A bottle of 30 softgels of **Astaxanthin 4 mg with Phospholipids** retails for \$16. If a member buys four bottles, the price is reduced to **\$10.50** per bottle. **Contains soybeans.**

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Item #01720

To order **Astaxanthin 4 mg with Phospholipids**,
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“Unsustainable” Cancer Drug Prices



BY WILLIAM FALOON



Over **100 oncologists** are protesting the outlandish prices charged for **cancer drugs** and how these inflated costs are economically “**unsustainable**.”¹

Their exposé was published in a prestigious medical journal and received **headline news** coverage last year.^{1,2}

The more than 100 oncologists who authored this report noted that of twelve cancer drugs approved in **2012**, eleven were priced above **\$100,000 per year**.¹

Before relating the details, I ask readers to fathom who can afford **\$100,000 a year** for one drug? This does not include hospital costs, physician fees, or other medications cancer patients typically require.

Private insurance premiums are soaring in response to skyrocketing medical costs, along with governmental meddling. Federal healthcare programs face **insolvency** even without this kind of price gouging.

The oncologists protesting these high prices are experts in **chronic myeloid leukemia**, a bone marrow cancer that is responding unusually well to new cancer drugs. The dilemma these doctors disclose is that patients are surviving longer than expected...in some cases indefinitely...as long as they continue to receive their expensive drugs.^{1,3}

These doctors conclude that the prices of these drugs “**are too high, unsustainable, may compromise access of needy patients to highly effective therapy, and are harmful to the sustainability of our national healthcare systems**.”¹

These revelations from inside the cancer establishment will not surprise **Life Extension’s** members, who long ago learned how regulatory **strangleholds** over drug development inflict harsh economic pain. >

Chronic Myelogenous Leukemia (also known as **Chronic Myeloid Leukemia** or **CML**) is a cancer of the blood and bone marrow.⁴ It's one of four main kinds of leukemia. It is characterized by the increased and unregulated growth of predominantly myeloid cells in the bone marrow and the accumulation of these cells in the blood.⁴

Treatment enhancements have been significant for this type of leukemia. In the 1960s five-year overall survival rates were only **3-5%**.⁵ Five-year survival rates today are over **90%** in those with chronic phase disease.^{5,6} CML is one of the few cancers where meaningful treatment progress has occurred.⁶

Cost Per Month Of Added Life

The more than 100 oncologists protesting the **high prices** are impressed with the anti-leukemic properties of these drugs. They note how some patients appear able to survive with chronic myeloid leukemia indefinitely... as long as they have access to the expensive medication(s).¹



The concern they raise is how individuals and/or society can ever afford the high prices, and why pharmaceutical companies need to charge so much after they earn back the costs of development.

Unlike patients with metastasized solid tumors (colon, lung, pancreatic), patients with **chronic myeloid leukemia** (CML) now live close to normal life spans, as long as they receive the appropriate drugs and adhere to treatment.

In these patients, their CML condition has become different from cancers that sadly kill many patients within a year or two. The CML form of leukemia is now more similar to chronic disorders like diabetes and hypertension, where daily therapy is required to produce the benefit of long-term survival.¹

The problem is that patients stricken with CML are becoming the “financial victims” of the treatment success, having to pay outlandishly high prices forever to stay alive.

How High?

Three drugs approved by the FDA in **2012** to treat leukemia are priced at the following astronomical levels:⁷

Generic Name	Annual Cost
Ponatinib	\$138,000
Bosutinib	\$118,000
Omacetaxine	Over \$100,000

Older anti-leukemia drugs like imatinib (Gleevec®) were initially priced at nearly **\$30,000** a year when released in **2001**. By **2012**, the pharmaceutical company making Gleevec® increased the price to **\$92,000** a year.⁸

The annual costs for these anti-leukemia drugs are beyond the financial abilities of private industry, government, and **99%** of individuals in the United States.

One reason why these drugs in particular are a problem is that each leukemia patient may need to use one or a combination of these medications for decades. The economic unreality of all this is why more than 100 oncologists grouped together to alert the world that the **high prices** for these cancer drugs are “*unsustainable*.”¹

Development Costs Long Ago Paid For

Pharmaceutical companies pretend they need to charge high prices to justify their expensive development costs. The more than 100 oncologists carefully examined this argument and found it to be unjustified.

Gleevec®, for instance, quickly covered its research and development costs with its **\$30,000/year** initial annual price. As it was approved for other indications, total revenue soared and it became a financial windfall for its maker (**Novartis**). Despite pleas by patients and advocates to lower the price of Gleevec®, it sells for more than **three times** its original price.^{1,8}

Who can afford to pay **\$92,000** a year for one drug?

Collusive Behavior And High Prices

The drugs working so well against CML are in a class known as “*tyrosine-kinase inhibitors*.”¹

There are now five tyrosine-kinase inhibiting drugs approved to treat CML, yet all five have



annual price ranges of **\$92,000** to **\$138,000** in the United States. This is twice the price compared to **Europe**, where government health programs bargain for lower drug prices.¹

As the more than 100 oncologists noted in their published report, the price in **South Korea** for these same tyrosine-kinase inhibitors ranges from **\$21,000** to **\$28,000**.¹ That's perhaps because the Koreans developed their own tyrosine-kinase inhibitor that sells for an annual price of only **\$21,500**, thus forcing pharmaceutical companies to lower their price sharply downwards compared to the United States and even Europe.

The more than 100 oncologists who authored the published report protesting the high prices state:

“A new branch of economics, called game theory, details how collusive behavior can tacitly maintain high prices over extended periods of time, despite competitive markets, thus representing a form of collective monopoly.”¹

We at **Life Extension**[®] have alleged for decades that drug companies function like cartels in

stomping out competition while maintaining monopolistic-like pricing. They do this in many ways that are quite open, such as filing lawsuits to delay the introduction of lower cost generics, and/or filing petitions with the FDA asking the agency to disallow a competitor's lower cost and sometimes superior product.⁹

It is interesting to note that some of the cancer-protective effects of nutrients like **curcumin** have been partially attributed to its **tyrosine-kinase inhibiting** properties. While curcumin has not yet been proven to be as specific as the drugs described in this article, a search on **PubMed** using the terms “**curcumin and leukemia**” reveals multiple mechanisms by which low-cost curcumin may prevent and treat a wide range of cancers.¹⁰

What Do Drugs Really Cost To Develop?

There is a debate as to how much it really “costs” a pharmaceutical company to bring a new cancer drug to market. The sum of **\$1.3-1.7 billion**³⁷ is often cited,

though some independent experts put it as low as **\$60-90 million**.³⁸

Whatever the real number, be assured it includes costs of development of the new drug that won FDA approval, all other drugs that failed, and ancillary expenses such as the cost of conducting the clinical trials, bonuses, salaries, infrastructures, royalties, advertising, and all kinds of perks to the doctors who prescribe the drugs.

As to how much a new drug really costs to develop, once a company sells about a billion dollars of a medication, most of the rest is profit. It's incredulous to claim that new cancer drugs are priced over **\$100,000 a year** because they cost so much to develop.

As you'll read later, much of the initial discovery costs are funded by **non-profit** entities involved in basic research. After the first two years of a successful drug launch, the “costs” of development are usually more than paid back.

How Drug Companies Fleece The Public

Before the federal government started picking up the tab for cancer drugs, there was at least an **affordability factor** that constrained how much pharmaceutical companies could charge.

This changed in response to intensive lobbying by pharmaceutical interests that enabled passage of laws such as the **Medicare Modernization Act of 2003**. This Act resulted in the federal government paying full retail price for cancer drugs and prohibited the federal government from negotiating a lower price.³⁹

Even before the **Medicare Modernization Act**, the federal government was paying retail prices for cancer drugs under existing

Medicare and Medicaid programs. Passage of the **Affordable Care Act of 2010** will enable pharmaceutical companies to gouge virtually the entire American market with their outlandish prices.⁴⁰

Consumers pay for these inflated drug prices in the form of higher private insurance premiums, higher deductibles, higher co-pays, and higher taxes.

Medicare's date with insolvency will be hastened as it pays out **tens of billions of excess dollars** into pharmaceutical company coffers. Those who have employer-funded health insurance are paying a greater portion of their medical insurance premium, while healthcare inflation remains a major factor behind corporate and municipal bankruptcies.

I don't view it as a coincidence that since the passage of the **Medicare Modernization Act**, cancer drugs the federal government pays for (like Gleevec®) have spiraled upwards in price. This Act was written and enacted into law under intensive pressure from pharmaceutical lobbyists.



How Gleevec® Was Discovered

Gleevec® was approved by the FDA in **2001**, but the history of its discovery dates back to **1960**, when scientists from the **University of Pennsylvania School of Medicine** and **Institute for Cancer Research** identified a genetic mutation in patients with CML (chronic myeloid leukemia).⁴⁸

The discovery meant that for the first time ever, scientists had discovered a genetic abnormality linked to a specific kind of cancer. This finding set off an explosion of research into the genetic causes of cancer. The next significant advance took place **13 years later** through the work of researchers at the **University of Chicago** who found that the missing section of DNA that characterized CML had shifted to another chromosome, a phenomenon known as “translocation.”⁴⁹

In the **1980s**, researchers from the **National Cancer Institute** and **Erasmus University** identified the principal chromosomal cause of CML.⁵⁰ Later, in 1990 researchers at UCLA found this defective chromosome produced a *protein* that enhances **tyrosine kinase** activity, which changes the cell's normal genetic instructions and enables aberrant cell growth and division.⁵⁰

With the discovery that a single enzyme could cause the development of CML, researchers were given a rare opportunity. The genetic target was clear, and the development of a drug that could inhibit the protein that enhanced tyrosine kinase could proceed rationally. Work began in the early **1990s** on the discovery of **tyrosine kinase inhibitors** by researchers at **Novartis**, who collaborated with scientists from the **Howard Hughes Medical Institute** and other research centers.⁵⁰⁻⁵³

The first **Phase I** study began in **1998**.^{53,54} The results of these preliminary studies showed that over **98%** of CML patients who took the drug were responding.⁵⁴ Most patients experienced a significant reduction in the number of white blood cells and a reduction or disappearance in the number of cells containing the cancer-triggering chromosome.

Word of the drug's effectiveness spread rapidly in the CML community and tremendous pressure was applied for Novartis to make more Gleevec® available so more patients could participate in the clinical trials. As more Gleevec® was made available, thousands of CML patients had their death sentence lifted. The FDA approved Gleevec® in **2001**, ten weeks after Novartis submitted the application.⁵⁵

This brief historical description shows how drug discovery is often initiated by **non-profit** research centers and then much later brought to fruition by commercial pharmaceutical companies. Some of the scientists involved in the early development of Gleevec® are part of the more than 100 oncologists who authored the report that seeks to lower the price of these **tyrosine kinase inhibiting** cancer drugs (such as Gleevec®).

While commercial companies play a vital role in drug development, it is so often research funded by **non-profit entities** that identifies a breakthrough “target” for which to develop a drug for.



We at *Life Extension* vehemently opposed the **Medicare Modernization Act** that enabled pharmaceutical companies to charge **full retail price** for drugs paid for by **federal tax/debt dollars**.

The obscene profits earned by a relatively small number of pharmaceutical companies provide them with virtually **unlimited resources** to influence Congress, the FDA, academia, the media, medical journals, and prescribing physicians in ways that go **against** the welfare of the American public.

Novartis Accused Of Paying Illegal Kickbacks To Doctors

Two of the five overpriced anti-leukemic drugs identified by oncologists are **Gleevec®** (imatinib) and **Tasigna®** (nilotinib), both made by Swiss pharmaceutical behemoth **Novartis®**.⁴¹

US prosecutors have brought civil-fraud charges against **Novartis®** for allegedly paying kickbacks to physicians to prescribe their diabetes and anti-hypertension drugs.⁴² Novartis

claims the money was paid to doctors to speak at education programs around the United States.

The charges against Novartis allege speaking fees, lavish dinners, and vacations illegally provided to doctors totaling nearly **\$65 million**.⁴² This money of course is all included in the “cost” of drug development.

How Much The Doctors Were Paid

The lawsuit alleges that the doctors (speakers) were usually paid **\$750-\$1,500** per program, with some earning as much as **\$3,000** to talk at fancy restaurants, or in one case, on a fishing boat in Florida.⁴² The government’s lawsuit further alleges that one doctor was paid **\$3,750** for speaking to the same **four** doctors about a Novartis drug **five** times in a nine-month period.⁴³

In another allegation, a doctor was paid \$500 to speak at an expensive Manhattan restaurant dinner attended by his friends. Many of these so-called “speaking engagements” occurred with less than three doctors attending, or

in some cases, **no** doctor attending in which case I suppose, Novartis paid the doctor to speak to himself at a fancy dinner paid for by Novartis.

The government’s lawsuit describes dinners where the price per person attending ranged from **\$672** to over **\$1,000**.⁴² I feel somewhat out of place here, but I have never been to a dinner where each guest ran up a tab like this for food and beverages. The lawsuit alleges that few slides were ever shown at these speaking engagements. **“Instead, Novartis simply wined and dined the doctors at high-end restaurants with astronomical costs.”**⁴³

Not all the restaurants where Novartis paid doctors to speak and covered the meals were high end. Some were sports bars (such as Hooters) with so many blaring TV screens (and no private room) that it would have been impossible to make a scientific presentation.⁴²

Not The First Time For Novartis

This is not the first time Novartis has been accused of paying doctors kickbacks to prescribe drugs that are often overpriced compared to generics, and therefore defraud government programs like Medicare and Medicaid.^{44,45}

In **2010**, the same unit of Novartis pled guilty to misdemeanor violations and paid **\$422.5 million** to settle civil and criminal charges that it illegally marketed certain pharmaceutical products and paid doctors kickbacks to prescribe it.⁴⁴

Novartis denies the charges that it illegally paid kickbacks to doctors in the current civil-fraud lawsuit.⁴⁵



Outlandish Cost Of Cancer Drugs

Pharmaceutical companies know that Medicare, Medicaid, and many insurance companies pay unlimited amounts of money for their drugs.

What few consumers realize is that they are bearing the cost of these over-priced drugs in the form of higher insurance premiums, higher deductibles, higher co-pays, more exclusions, higher taxes, and higher interest costs on the national debt as government programs pay these outlandish prices. Pharmaceutical companies price gouge the public by charging the **obscene prices** you see below:

Brand Name	Generic Name	Type of Cancer	Cost of Drugs
Avastin [®]	(<i>bevacizumab</i>)	Breast Cancer Colon	\$100,000 ¹¹ , \$55,000 (2004) ¹² \$85,000 (2011) ¹³
Avastin [®]	(<i>bevacizumab</i>)	Brain Cancer that recurred	\$43,000 ¹⁴
Iclusig [®]	(<i>ponatinib</i>)	Chronic Myeloid Leukemia (CML)	\$138,000 ¹⁵
Bosulif [®]	(<i>bosutinib</i>)	Chronic Myeloid Leukemia (CML)	\$118,000 ¹⁵
Gleevec [®]	(<i>imatinib</i>)	Chronic Myeloid Leukemia (CML)	\$30,000 (2001) \$92,000 (2012) ¹⁵
Erbix [®]	(<i>cetuximab</i>)	Colon Cancer, Lung Cancer	\$80,000 ¹⁶
Cometriq [®]	(<i>cabozantinib</i>)	Thyroid Cancer	\$99,000 ¹⁷
Erivedge [®]	(<i>vismodegib</i>) [®]	Skin Cancer	\$75,000 ¹⁸
Herceptin [®]	(<i>trastuzumab</i>)	Breast Cancer	\$70,000 ¹⁹
Camptosar [®]	(<i>irinotecan</i>)	Stage IV Colon Cancer	\$44,087 ²⁰
Eloxatin [®]	(<i>oxaliplatin</i>)	Stage IV Colon Cancer	\$60,179 ²⁰
Synribo [®]	(<i>omacetaxine</i>)	Chronic Myeloid Leukemia (CML)	\$28,000 for induction and \$14,000 for a maintenance course ¹⁵
Kadcyla [®]	(<i>ado-trastuzumab emtansine</i>)	Breast Cancer	\$94,000 ²¹
Nexavar [®]	(<i>sorafenib</i>)	Liver Cancer Kidney Cancer	\$80,000 ²² \$96,000 ²²
Perjeta [®]	(<i>pertuzumab</i>)	Breast Cancer	\$106,200 ²³ (based on 18-month course of treatment)
Provenge [®]	(<i>sipuleucel-T</i>)	Prostate Cancer	\$93,000 ²⁴
Proleukin [®]	(<i>aldesleukin</i>)	Kidney Cancer, Metastatic Melanoma	Up to \$3,925 per dose, \$109,900 per course based on 28 doses, \$549,500 per year based on 5 courses ^{25,26}
Sutent [®]	(<i>sunitinib malate</i>)	Kidney, Pancreatic and GI Cancer	\$48,720 ²⁷
Tarceva [®]	(<i>erlotinib</i>)	Non-Small Cell Lung Cancer	\$31,000 ²⁸
Xalkori [®]	(<i>crizotinib</i>)	Non-Small Cell Lung Cancer	\$115,000 ²⁹
Xgeva [®]	(<i>denosumab</i>)	Metastasis to Bones	\$6,600 ³⁰
Xtandi [®]	(<i>enzalutamide</i>)	Prostate Cancer (metastatic castration-resistant -mCRPC)	\$59,600 ³¹
Votrient [®]	(<i>pazopanib</i>)	Kidney Cancer Sarcomas ³³ (2012)	\$93,000 ³² (based on 800 mg per day)
Yervoy [®]	(<i>ipilimumab</i>)	Melanoma	about \$116,000 ³⁴ (about \$29,000 per infusion, 4 needed)
Zelboraf [®]	(<i>vemurafenib</i>)	Metastatic Melanoma	\$112,800 ³⁵ (2012) \$60,000 ²⁹ (2011)
Zytiga [®]	(<i>abiraterone</i>)	Prostate Cancer (castration-resistant -CRPC)	\$60,000 ³⁶

A Broken System!

The magnitude of pharmaceutical company malfeasance is incomprehensible to the lay public.

Consumers know healthcare costs are rising, yet cures for most killer diseases remain elusive.

New cancer drugs that add only a few agonizing months of survival are laden with such severe side effects that many patients reject them altogether. Some cancer patients say no to these overpriced drugs to spare their families insolvency.

Pharmaceutical companies today seek to gain FDA approval of patented drugs that may temporarily shrink tumor volume, but don't always meaningfully improve patient survival.

The leukemia drugs described in this article are the exception when it comes to long-term efficacy and relative safety.^{5,6}

Richard Nixon declared war on cancer in 1971.⁴⁶ Hundreds of billions of dollars of federal funds have been spent on research. Cancer patients survive longer today, but missing are the miracle cures envisioned 43 years ago.

Long-term side effects from radiation or chemotherapy cause deaths from stroke, heart failure, or immune impairment. These cancer therapy-induced deaths are not "counted" in the cancer statistics, thus enabling the cancer establishment to pretend they are making more progress than they really are.⁴⁷

Our "Different" Approach To Cancer Treatment

We at *Life Extension* fund clinical cancer research aimed at discovering if protocols that involve dozens of drugs, nutrients,



and other therapies can produce long-term complete responses, i.e. cures.

We have spent millions of dollars testing a wide array of "other" companies' therapies in unique combinations to see if we can attain remissions or complete responses. Our clinical successes in some cases are unprecedented, yet we don't own the intellectual property (i.e. the drugs) that enables these successes to occur.

Instead, we publish the results of our research in books like *Disease Prevention and Treatment*, on our website, or disseminate to our members through our health advisory staff.

We never use placebos in cancer patients as we believe this to be genocide. All cancer patients who enter our clinical trials receive therapies that are intended to cure (or mitigate) their underlying malignancy. Life Extension does not believe any human being should be treated as an experimental lab animal.

Your support of our cancer research initiatives is made possible through your membership dues, contributions, and supplement purchases.

For longer life,

William Faloon

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Your brain is under constant onslaught from environmental and stress-related challenges, as well as normal aging processes.^{1,2}

Fortunately, our brain cells have built-in, **self-healing** systems that provide natural defenses against these ongoing threats.³ Even more remarkable, molecular science is revealing that the human brain has the capacity to **preserve** the neurons involved in brain remodeling (*plasticity*).³

Scientists in China and Singapore have found that **gastrodin**, a compound typically derived from a traditional Chinese orchid (*Gastrodia elata*), provides powerful support for the brain's normal defenses and regenerative mechanisms.^{4,7}

To make these benefits available to members, **Life Extension®** introduces **Brain Shield™**, providing **300 mg** of **gastrodin** in each capsule for *maximum* brain support.

MULTI-FACTORIAL BENEFITS!

Recent studies confirm that the **gastrodin** in **Brain Shield™** is one of the most powerful compounds for supporting healthy brain function *at any age!* **Gastrodin** works by the following mechanisms:

- To retain normal function, the aging brain relies on adequate **blood flow** to get sufficient oxygen and fuel.⁸ It has been repeatedly shown that formulas containing **gastrodin** beneficially support normal, healthy levels of brain blood flow in both animals and in humans.^{6,7}
- The body maintains a delicate balance of **neurotransmitters**, such as GABA, which is of tremendous importance to healthy brain function. Studies show that alone or in combination the active compound **gastrodin** helps maintain healthy levels of vital neurotransmitters in those whose levels are already within the normal range.⁹⁻¹¹

- With aging, short-term **memory** function is often impaired. Studies show that **gastrodin** helps support the healthy body's normal defenses against the mild memory problems associated with aging.¹²
- Scientists have shown that the breakdown metabolites of **gastrodin** help provide support against the normal stress and tension of daily life.^{13,14}
- And **Brain Shield™** helps alleviate the occasional **cranial pain** associated with daily life.¹⁵

Brain Shield™ supports healthy cognitive and circulatory function in aging individuals.

Those seeking maximum benefit should start with one **300 mg** capsule of **Brain Shield™** taken twice daily.¹⁶ After thirty days, one **Brain Shield™** (gastrodin) capsule daily may be sufficient based upon the experience of gastrodin as an over-the-counter (OTC) pharmaceutical agent. Those taking Cognitex® are obtaining **50 mg** of gastrodin in the daily dose along with complementary nutrients. As additional research continues on gastrodin, better clarification on optimal dosing for a wide range of neurovascular and neuro-inflammatory conditions should be available.

A bottle of 60 **300 mg** vegetarian capsules of **Brain Shield™** retails for \$33. If a member buys four bottles, the price is reduced to **\$22.50** per bottle.



Item # 01802

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To order **Life Extension® Brain Shield™**, call **1-800-544-4440** or visit www.LifeExtension.com

How Much Curcumin Are You Absorbing?



Curcumin is an active compound derived from the Indian spice **turmeric**. It has been widely acclaimed for its diverse health-promoting effects on nearly every organ system in the body,¹⁻⁶ including its support for the body's natural inflammatory response system.⁷ But most curcumin is neither *absorbed well nor retained well* in the blood—posing a challenge to those who wish to maximize its benefits.⁸

Life Extension® took the lead in resolving this issue several years ago by introducing **Super Bio-Curcumin**® containing **BCM-95**®, a patented, *bioenhanced* preparation of curcumin that has been shown to reach up to **7 times higher concentration** in the blood than standard curcumin.⁸

Now, an exciting **next generation** curcumin formula has become available! The **new Advanced Bio-Curcumin**® with **Ginger & Turmerones** provides additional compounds that **further** boost absorption of curcumin's highly beneficial phytonutrients!^{9,10}

UNRIVALED POTENCY AND ABSORBABILITY

In addition to **BCM-95**®, this **new curcumin** formula contains:

1. Turmerones: After curcumin is extracted from turmeric, what remains is **turmeric oil** rich in compounds called **turmerones**.¹¹ Combining **BCM-95**® with a high content of **turmerones** provides health consumers with **more** beneficial **turmeric** compounds that further multiply absorption.⁹ Scientists have shown that these potent **turmerones** not only support curcumin absorption, but significantly increase the amount of curcumin **inside** the cell as well!⁹

2. Ginger: Curcumin and **ginger** are close botanical relatives. Research demonstrates that they have overlapping and complementary health benefits,¹³ and scientists are focusing on the therapeutic effects of *combining* these two plants.^{14,15} **Advanced Bio-Curcumin**® with **Ginger & Turmerones** provides a supercritical extract of ginger standardized to the greatest concentration of ginger compounds—including beneficial gingerols and shogaols.

3. Phospholipids: This new curcumin formula also contains **phospholipids**, a type of emulsifying molecule known to greatly enhance absorption of poorly soluble active compounds.¹⁰

The powerfully enhanced bioavailability and potency of **Advanced Bio-Curcumin**® with **Ginger & Turmerones** is superior to conventional curcumin supplements. This product represents the most powerful and cost-effective way to supplement with—and receive the full benefits of—this very critical nutrient.

The suggested daily dosage of one softgel of **Advanced Bio-Curcumin**® with **Ginger & Turmerones** provides:

Turmeric Phospholipid Blend	630 mg
BCM-95® Bio-Curcumin Turmeric 25:1 extract (rhizome) [total curcuminoids complex with essential oils (380 mg)], Turmeric oil (rhizome) [providing 60 mg total turmerones], Phospholipids	
Ginger CO₂ extract (root)	200 mg
[providing 60 mg gingerols]	

Each softgel of **Advanced Bio-Curcumin**® with **Ginger & Turmerones** provides **400 mg** of **BCM-95**® **Super Bio-Curcumin** plus an array of turmerones and phospholipids.

A bottle of 30 softgels of **Advanced Bio-Curcumin**® with **Ginger & Turmerones** retails for \$30. If a member buys four bottles, the price is reduced to **\$20.25** per bottle.

Contains soybeans.

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

To order **Life Extension**® **Advanced Bio-Curcumin**® with **Ginger & Turmerones**, call **1-800-544-4440** or visit **www.LifeExtension.com**



Item # 01808

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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, contact your healthcare practitioner before taking this product.

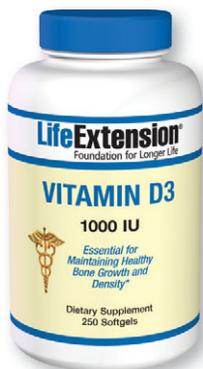
D₃

VITAMIN D3 SOFTGELS FOR SUPERIOR ABSORPTION

Study after study confirms the vital importance of maintaining optimal levels of **vitamin D**. Research often indicates that a blood level between **50–80 ng/mL** of **25-hydroxyvitamin D** is ideal. Because people have individual requirements, Life Extension® has created a large selection of **vitamin D** supplements to ensure that you achieve your **vitamin D3** goals.

Keep in mind that you may already be getting **1,000-3,000 IU** of vitamin D in your multi-nutrient formulas.

Vitamin D is now available in superior absorbing softgels. A recent study demonstrated that the use of one **5,000 IU** vitamin D softgel daily resulted in a near **30% increase** in vitamin D levels in just **60 days**.

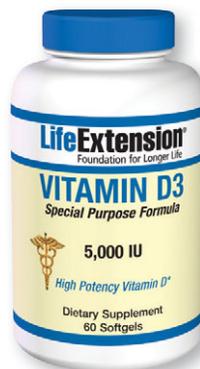


VITAMIN D3 1,000 IU 250 softgels

Retail: \$12.50

Four-bottle Member Price: \$8.44 ea.

Commercial companies offered only **400 IU** vitamin D products when Life Extension long ago introduced a **1,000 IU** version. For most people, this **1,000 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 # 01751**

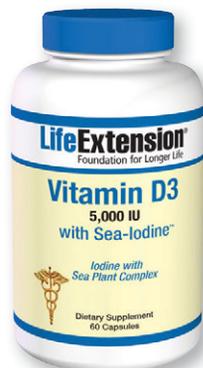


VITAMIN D3 5,000 IU 60 softgels

Retail: \$11

Four-bottle Member Price: \$7.43 ea.

For those already obtaining **1,000-3,000 IU** of vitamin D in their multi-nutrient formulas, this **5,000 IU** potency is what many need to *achieve* optimal vitamin D blood levels. **Item # 01713**



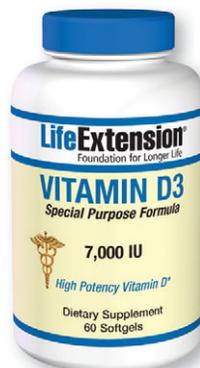
VITAMIN D3 5,000 IU WITH SEA-IODINE™* 60 capsules (non-softgel)

Retail: \$14

Four-bottle Member Price: \$9.38 ea.

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.

Due to the source of kelp, this product may contain fish and shellfish. **Item # 01758**



VITAMIN D3 7,000 IU 60 softgels

Retail: \$14

Four-bottle Member Price: \$9.45 ea.

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** softgel should enable these individuals to attain **25-hydroxyvitamin D** blood levels above the desired range of **50 ng/mL**. **Item # 01718**



VITAMIN D3 LIQUID 2,000 IU (Natural mint flavor) 1 ounce

Retail: \$28

Four-bottle Member Price: \$18.75 ea.

For those rare individuals who have difficulty absorbing enough vitamin D3 from softgels, this liquid of vitamin D can be used. **Item # 01732**

Also available without mint. (Item# 00864)

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

CAUTION: Individuals consuming more than 2,000 IU/day of vitamin D (from diet and supplements) should periodically obtain a serum 25-hydroxy-vitamin D measurement. Do not exceed 10,000 IU per day unless recommended by your doctor. Vitamin D supplementation is not recommended for individuals with high blood calcium levels.

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

CRUCIFEROUS

Vegetable Extracts in Convenient Capsules

Scientists have identified specific extracts from **cruciferous vegetables**—such as broccoli, cauliflower, cabbage and Brussels sprouts—that help maintain healthy hormone metabolite balance. **Triple Action Cruciferous Vegetable Extract** combines some of these plant extracts into a comprehensive formula for optimal DNA protection.

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 (estrogen-like environmental chemicals).¹⁻⁴

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

Consumers should be aware that while consumption of cruciferous vegetables is highly recommended, the cooking process depletes many of the beneficial compounds such as **I3C**.

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 bottle containing 60 vegetarian capsules of **Triple Action Cruciferous Vegetable Extract** retails for \$24. If a member buys four bottles, the price is reduced to **\$16.50 per bottle**.



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

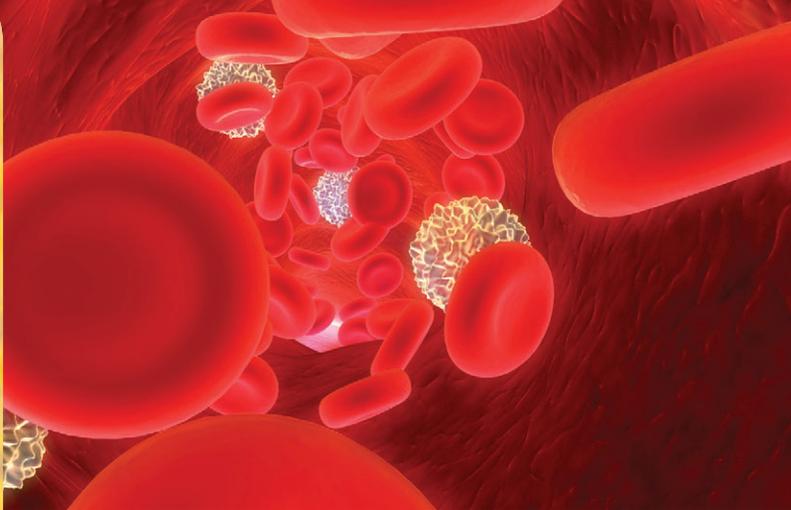
Broccoli Extract	400 mg
[standardized to 4% glucosinolates (16 mg)]	
Watercress 4:1 extract	50 mg
Indole-3-Carbinol (I3C)	80 mg
Rosemary Extract	50 mg
Cat's Claw Extract	50 mg
Cabbage Extract	25 mg
DIM (di-indolyl-methane)	14 mg
Apigenin	25 mg

Those who want to obtain the benefits of **trans-resveratrol** can order **Triple Action Cruciferous Vegetable Extract with Resveratrol**. Each capsule provides **20 mg of trans-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 **\$22.20 per bottle**.

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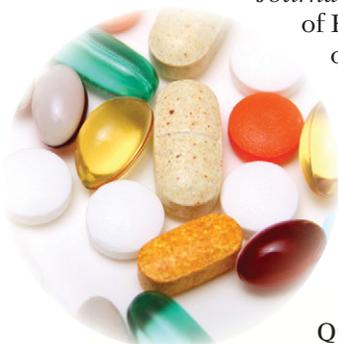
**To order Triple Action Cruciferous
Vegetable Extract, call 1-800-544-4440
or visit www.LifeExtension.com**



IN THE NEWS

Multivitamin Use Linked With Lower Colorectal Polyp Risk

An article that appeared online in the *British Journal of Cancer* describes the findings of Harvard researchers of a lower risk of colorectal adenoma (polyps) in women who used multivitamin supplements.*



The current investigation included 43,641 women enrolled in the Nurses' Health Study II who underwent initial colonoscopy or sigmoidoscopy examinations between 1991 and 2007. Questionnaires completed every two years by the participants beginning in 1991 provided information on the use of multivitamin supplements and whether colon or rectal polyps had been diagnosed. Over the course of follow-up, 2,277 women were diagnosed with colorectal adenomas, of which 1,090 were classified as low-risk and 696 were classified as at high risk of developing into cancer. Women who reported using multivitamins at any time over the course of follow-up had a **14%** lower risk of colorectal adenoma than non-users.

Editor's Note: When duration of use was examined, subjects who used vitamins for 20 to 26 years experienced the greatest protective effect, with a **20%** lower risk in comparison with those who did not report using a multivitamin supplement.

—D. Dye

* *Br J Cancer*. 2014 Jan 7;110(1):249-55.

Gamma Tocopherol, Tocotrienols Protect Against Cognitive Impairment

A study described in *Experimental Gerontology* uncovered a protective effect for higher levels of the vitamin E subfractions gamma tocopherol, beta tocotrienol, and total tocotrienols against the risk of developing Alzheimer's disease or mild cognitive impairment.*

Researchers evaluated the association between serum tocopherol and tocotrienol levels and cognitive impairment in 140 participants in the CAIDE study, which examined Finnish men and women at several time points during midlife and re-examined survivors in 1998 and 2005-2008. The current study compared 64 subjects diagnosed with mild cognitive impairment or Alzheimer's disease with 76 cognitively normal participants. Serum samples collected in 1998 were analyzed for tocopherols, tocotrienols, and cholesterol (which may influence serum vitamin E levels).

The researchers uncovered a **73% lower** risk of cognitive impairment among those whose serum **gamma tocopherol** to cholesterol ratio was among the middle third of subjects in comparison with those whose ratio was among the lowest third.

Editor's Note: Higher serum levels of gamma tocopherol, beta tocotrienol, and total tocotrienols were each associated with a significantly lower risk of being cognitively impaired.

—D. Dye

* *Exp Gerontol*. 2013 Dec;48(12):1428-35.



Phase 2 Clinical Trial Demonstrates Benefits Of Metformin In Prostate Cancer

Published in the journal *European Urology*, a team of researchers from Switzerland found that treatment with metformin in patients with castration-resistant prostate cancer increased progression-free survival and prolonged PSA doubling time.*

The one year study included 44 men diagnosed with progressive, metastatic castration-resistant prostate cancer at 10 different Swiss centers who were given **1,000 mg** of metformin twice daily. After 12 weeks of treatment, **36%** of patients were progression free with over **25%** of these men remaining progression free at 24 weeks. Over **52%** of the patients experienced a prolongation of PSA doubling time (a reflection of slower tumor growth). Additionally, insulin sensitivity markers improved by **26%** in the first 12 weeks of treatment.

Editor's Note: The researchers concluded that "treatment with metformin is safe in non-diabetic patients, and it yields objective PSA responses and may induce disease stabilization. The activity of metformin in prostate cancer, along with its low cost, favorable toxicity profile, and positive effect on metabolic parameters" warrants further investigation of metformin as a treatment for prostate cancer.

—A. Pryce, ND

* *Eur Urol.* 2014 Jan 4.



Reduced Vitamin D, Magnesium Associated With Increased Insulin Resistance

A recent issue of the *Journal of Clinical and Diagnostic Research* published the findings of a study conducted at Mahatma Gandhi Medical College and Research Institute of reduced levels of vitamin D, calcium, and magnesium in diabetic individuals, as well as associations between decreased concentrations of serum vitamin D and magnesium with increased insulin resistance.*

The study compared 30 diabetic men and women with an equal number of non-diabetic control subjects matched for gender and age. Fasting blood samples were analyzed for serum glucose, insulin, 25-hydroxyvitamin D3, and insulin levels, and insulin resistance was determined.

Serum 25-hydroxyvitamin D3 levels averaged **12.29 ng/mL** among those with type II diabetes in comparison with **19.55 ng/mL** in the healthy controls. Serum calcium and magnesium levels were also significantly lower in the diabetic group and fasting glucose, insulin, and insulin resistance were greater among those with diabetes.

Greater insulin levels are seen in insulin resistant individuals who often secrete more insulin to keep glucose levels from acutely rising too high. This continues until pancreatic beta cells are no longer able to produce insulin, and the type II diabetic then requires insulin injections to keep glucose under control.

Editor's Note: A significant correlation was determined between lower vitamin D levels and higher insulin levels as well as insulin resistance. Additionally, higher vitamin D levels were correlated with increased magnesium status, and low magnesium with insulin resistance.

—D. Dye

* *J Clin Diagn Res.* 2013 Nov;7(11):2438-41

Higher Vitamin D During Pregnancy Benefits Offspring

The *Journal of Clinical Endocrinology and Metabolism* contained a report of the findings of researchers from England's Medical Research Council Lifecourse Epidemiology Unit at the University of Southampton of a muscle strength benefit in the children of mothers who had higher vitamin D levels during pregnancy.*

The study included 678 pregnant participants in the Southampton Women's Survey. The women's serum 25-hydroxyvitamin D levels were measured at 34 weeks of gestation. When their children were four years old, hand grip strength, lean mass, percent lean mass, and physical activity were assessed.

A correlation was observed between higher serum 25-hydroxyvitamin D levels and an increase in hand grip strength. An additional association was found between total lean mass and increased vitamin D concentrations, which was reduced after adjustment for several factors.

Editor's Note: Lead researcher Nicholas C. Harvey, who is a Senior Lecturer at the Medical Research Council Lifecourse Epidemiology Unit remarked that, "It is likely that the greater muscle strength observed at four years of age in children born to mothers with higher vitamin D levels will track into adulthood, and so potentially help to reduce the burden of illness associated with loss of muscle mass in old age."

—D. Dye

* *J Clin Endocrinol Metab.* 2014 Jan;99(1):330-7.





High Homocysteine Linked To Increased Colorectal Cancer Risk

A recent article in the *Journal of Clinical Nutrition* reports on a study in which high homocysteine levels are associated with an increased risk of colorectal cancer independently of oxidative stress and antioxidant capacities.*

The study recruited 186 subjects with colorectal cancer and 188 healthy people as controls. The purpose of this study was to determine the associations of homocysteine, cysteine, vitamin B6 (as pyridoxal 5'-phosphate), and folate with oxidative stress indicators and antioxidant capacities, and to further analyze their relationships with respect to risk for colorectal cancer.

The results showed that there were no significant associations of homocysteine, cysteine, and folate with oxidative stress indicators and antioxidant capacities, but subjects with higher plasma homocysteine concentration exhibited significantly increased risk of colorectal cancer independently of oxidative stress indicators and antioxidant capacities. However, cysteine, B6, and folate were not found to be related to oxidative stress, antioxidant capacities, and the risk of colorectal cancer.

—M. Richmond

* *Clin Nutr.* 2013 Nov 13.

Increased EPA/DHA, ALA Associated With Lower Risk Of Cardiovascular Mortality

The *European Journal of Preventive Cardiology* reports the finding of a lower risk of death from cardiovascular disease among men and women with a higher intake of the omega-3 fatty acids EPA and DHA, which are derived from marine sources, and alpha-linolenic acid (ALA), which occurs in plant foods.*

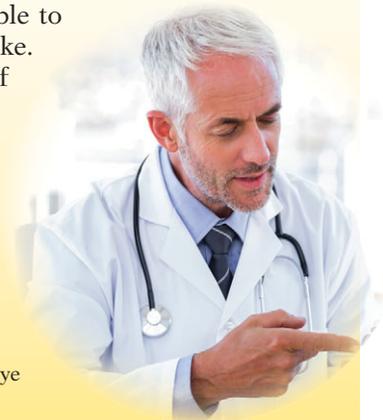
The current study evaluated data obtained from the Singapore Chinese Health Study, which recruited 63,257 Chinese men and women between the ages of 45 and 74 years from 1993 to 1998. Responses to questionnaires completed upon enrollment provided information on the intake of omega-3 fatty acids. Over the follow-up period through 2011, 4,780 deaths from cardiovascular disease occurred, which included 2,697 attributable to coronary heart disease and 1,298 from stroke.

When subjects in the top quartile of omega-3 fatty acid intake were compared with the lowest quartile, a **17% lower** risk of dying from cardiovascular disease was observed.

Editor's Note: When EPA combined with DHA intake was separately examined, a **14%** lower risk for those in the top **25%** compared to the lowest was found, and for ALA, the risk of dying from cardiovascular disease was **19%** lower for those among the highest fourth.

—D. Dye

* *Eur J Prev Cardio.* 2013 Dec 16.



Curcumin Sensitizes Colon Cancer Cells To Chemotherapy

An article published in *PLOS One* reports the finding of a chemosensitizing benefit for curcumin, a compound occurring in turmeric, in colon cancer cells resistant to treatment with the chemotherapy drug 5-fluorouracil (5-FU).*

The current study utilized cultures of two high density colorectal cell lines that were sensitive to 5-fluorouracil and cultures of their 5-FU resistant clones. One of the two non-resistant lines and its resistant clone were deficient in their DNA mismatch repair systems, which results in genetic instability, increased susceptibility to neoplastic transformation, and greater development of chemoresistant cells. Cells were treated with varying concentrations of 5-FU or BCM-95 curcumin, or received pretreatment with curcumin followed by exposure to one of four concentrations of 5-FU.

While 5-FU dose-dependently reduced the proliferation of the non-resistant cell lines, curcumin alone decreased proliferation in all cell lines, showing the most significant effects in the lines that were not deficient in their DNA mismatch repair systems.

Editor's Note: Pretreatment with curcumin prior to 5-FU administration revealed a benefit in 5-FU sensitive as well as resistant cells. Either treatment or their combination also decreased markers of cancer stem cells in all lines, with the greatest benefit observed in association with combination therapy.

—D. Dye

* *PLoS One.* 2014 Jan 3;9(1):e85397.

Vitamin D Offers Pain Relief To Fibromyalgia Sufferers

A report published in the journal *Pain* describes the outcome of a trial involving vitamin D supplementation by adults with fibromyalgia, which found a benefit for the vitamin in relieving the chronic pain that characterizes the syndrome.*

The trial included 30 subjects diagnosed with fibromyalgia syndrome who had low serum 25-hydroxyvitamin D levels. Half of the participants received vitamin D3, and the remaining half received a placebo for 24 weeks. The goal for the treatment group was to achieve serum calcifediol levels between **32 and 48 ng/mL** for 20 weeks. Serum vitamin D levels were measured before treatment and at 5, 13, and 25 weeks. Pain, health-related quality of life, anxiety and depression, disease-related impairment, and physical sensations were evaluated at the beginning of the study and at various points over the course of the investigation. A significant reduction in pain occurred over time in those who received the vitamin, while remaining essentially unchanged in the placebo group.

Editor's Note: Physical role functioning also improved among those given vitamin D, while remaining constant in the control subjects.

—D. Dye

* *Pain*. 2014 Feb;155(2):261-8.



Mediterranean Diet Lowers Sudden Cardiac Death Risk In Women

An article published in the *American Journal of Clinical Nutrition* reports a protective effect for a Mediterranean diet against the risk of undergoing sudden cardiac death among postmenopausal women.*

The investigation evaluated the effects of adherence to a Mediterranean diet or the Dietary Approaches to Stop Hypertension (DASH) diet among 93,122 participants who enrolled in the Women's Health Initiative study between 1993 and 1998. Dietary questionnaires completed twice during the 10.5-year average follow-up period were scored on adherence to both diets.

Over the follow-up period, 237 sudden cardiac deaths occurred. Among those whose Mediterranean diet scores were among the top **20%** of participants, there was an adjusted **33% lower** risk of undergoing sudden cardiac death in comparison with women whose scores were among the lowest **20%**. Higher DASH diet scores were not correlated with a lower risk of sudden cardiac death after adjustment for numerous factors.

Editor's Note: As a possible explanation for the lack of benefit associated with the DASH diet observed in the current study, authors Monica L. Bertolio and her colleagues remark that the intake of salt, an important factor in the DASH diet, was not well characterized by the questionnaires.

—D. Dye



* *Am J Clin Nutr*. 2014 Feb;99(2):344-51.

Remember To Drink Your Coffee

An article published in *Nature Neuroscience* reveals a memory-enhancing effect for caffeine, found in coffee, tea, and other beverages.*

In a double-blinded trial, participants who were not regular caffeine consumers received **200 milligrams** of caffeine or a placebo five minutes after studying a series of images. Saliva samples collected prior to treatment and one, three, and 24 hours afterward tracked caffeine levels. The subjects were tested the following day on how well they remembered the images.

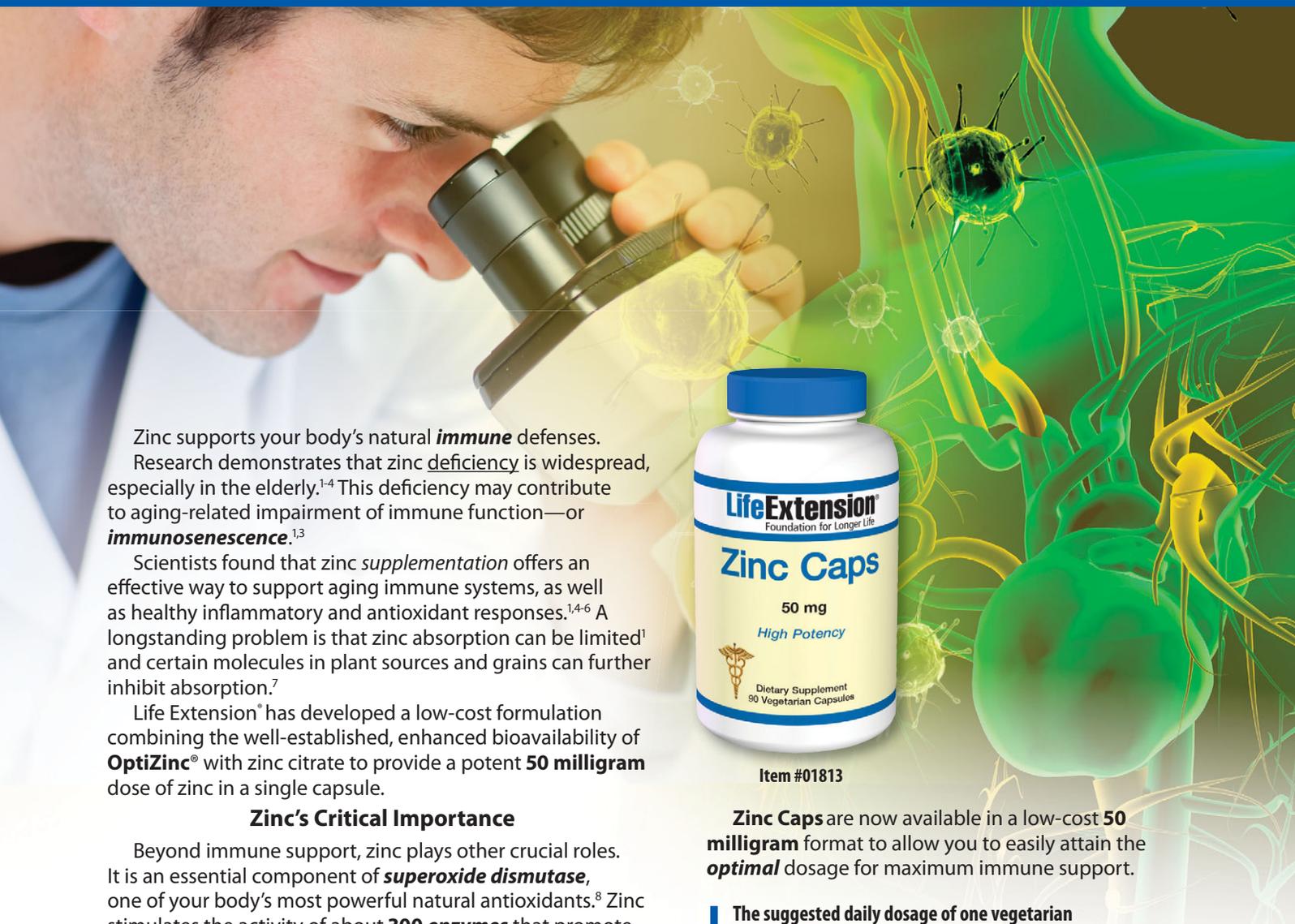
Participants who received caffeine were better able to identify images viewed the day before, and to recognize those that were similar but different. "If we used a standard recognition memory task without these tricky similar items, we would have found no effect of caffeine," senior author Michael Yassa explained. "However, using these items requires the brain to make a more difficult discrimination—what we call pattern separation, which seems to be the process that is enhanced by caffeine in our case."

Editor's Note: "We also know that caffeine is associated with healthy longevity and may have some protective effects from cognitive decline like Alzheimer's disease," Dr. Yassa added.

—D. Dye

* *Nature Neurosci*. 2014 Jan 12.

Higher-Potency **OptiZinc**[®] For Optimal Absorption



Zinc supports your body's natural **immune** defenses. Research demonstrates that zinc **deficiency** is widespread, especially in the elderly.^{1,4} This deficiency may contribute to aging-related impairment of immune function—or **immunosenescence**.^{1,3}

Scientists found that zinc **supplementation** offers an effective way to support aging immune systems, as well as healthy inflammatory and antioxidant responses.^{1,4-6} A longstanding problem is that zinc absorption can be limited¹ and certain molecules in plant sources and grains can further inhibit absorption.⁷

Life Extension[®] has developed a low-cost formulation combining the well-established, enhanced bioavailability of **OptiZinc**[®] with zinc citrate to provide a potent **50 milligram** dose of zinc in a single capsule.

Zinc's Critical Importance

Beyond immune support, zinc plays other crucial roles. It is an essential component of **superoxide dismutase**, one of your body's most powerful natural antioxidants.⁸ Zinc stimulates the activity of about **300 enzymes** that promote biochemical reactions in your body.⁹

This key mineral is also an integral component of vital **hormones** and supports protein and DNA synthesis, insulin production, as well as thyroid and bone metabolism.^{7,8-11} Zinc supports cardiovascular and neurological health, and helps maintain vision in the elderly.^{8,9,12}

Age-related immune decline is partly due to the decreasing size and function of the **thymus** gland. Evidence suggests that zinc may help maintain healthy function of the thymus gland in elderly people.¹

The Proven Superior Absorption Of OptiZinc[®]

OptiZinc[®] is a superior bioavailable form of zinc.¹³ It is assimilated more easily than ordinary zinc because it is comprised of one of the **most absorbable** forms of zinc—**zinc methionate (methionine)**.¹⁴ Published studies show that it results in higher blood levels compared to other forms of zinc.¹⁴



Item #01813

Zinc Caps are now available in a low-cost **50 milligram** format to allow you to easily attain the **optimal** dosage for maximum immune support.

The suggested daily dosage of one vegetarian capsule of Zinc Caps provides:

Zinc (as OptiZinc[®] zinc monomethionine*, Zinc citrate) **50 mg**

A bottle of 90 vegetarian capsules of **Zinc Caps** retails for \$7.95. If a member buys four bottles, the price is reduced to **\$5.25** per bottle.

* OptiZinc[®] is a registered trademark of InterHealth Nutritionals, Inc.

Caution: Supplemental zinc can inhibit the absorption and availability of copper. If more than 50 milligrams of supplemental zinc is taken daily, 2 milligrams of supplemental copper should also be taken to prevent deficiency. Chronic ingestion of more than 100 milligrams of zinc daily may be immunosuppressive.

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To order Zinc Caps, 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.

Support Endothelial Function and Healthy Blood Lipids

Safely managing the *multiple* elements supporting cardiovascular health can be a challenge as people grow older. Doctors are increasingly recognizing the need to promote the function of the **endothelial** layer of the arterial wall, a critical factor in cardiovascular health.¹

Advanced Lipid Control provides two ingredients that help maintain key aspects of endothelial function—**Amla extract** from the Indian gooseberry and **Black Tea extract**.

Amla Extract

Amla fruit contains a diverse blend of beneficial *phenolic compounds*. This fruit has long been used in herbal preparations by ancient medical systems.²

Standardized Amla extract has been clinically shown to support **endothelial function**.³⁻⁵

Modern research shows that this plant extract safely supports healthy levels of all three key blood lipids⁶ already within healthy range:

1. Low-density lipoprotein (LDL)
2. High-density lipoprotein (HDL)
3. Triglycerides

Evidence demonstrates that **Amla** extract also promotes healthy levels of blood **glucose**, **insulin**, and **blood pressure** within normal range.⁶⁻⁸

Advanced Lipid Control contains a patented standardized extract of **Capros® Amla**.

Black Tea Extract

Black Tea is rich in *polyphenols* such as *theaflavins* that scientists have discovered provide multiple benefits for **arterial health**.^{9,10}

Black tea *polyphenols* have been shown in human studies to help maintain LDL levels already in the normal range.¹¹ Protective compounds found in black tea have been shown to support the body's natural defenses against **LDL oxidation**, thus helping to maintain healthy circulation by favorably affecting **endothelial function**.^{12,13}

In addition, compounds found in **black tea** have been found to be helpful in regulating key inflammatory mediators in the body,¹⁴ thus further helping to preserve endothelial integrity.

Through these multiple mechanisms, **Black Tea** supports **blood pressure** levels within normal range.¹⁵

Advanced Lipid Control also contains theaflavin-standardized black tea extract.

Broad Endothelial and Cardiovascular Support

The ingredients in **Advanced Lipid Control** support **endothelial function**. This special formula also promotes healthy cholesterol levels already within normal range and safeguards vascular and heart health.

The suggested daily dosage of two vegetarian capsules of **Advanced Lipid Control** provides:

Capros® Amla water extract (fruit)	500 mg
[std. to 60% low molecular weight hydrolyzable tannins (300 mg)]	
Black tea extract (leaf)	350 mg
[std. to 25% theaflavins (87.5 mg)]	

A bottle of 60 vegetarian capsules of **Advanced Lipid Control** retails for \$30. If a member buys four bottles, the price is reduced to **\$20.25** per bottle.

Capros® is a registered trademark of Natreon, Inc. This product contains a black tea extract which is licensed from Applied Food Sciences, Inc. and is protected by U.S. patent Nos. 6,811,799 and 6,602,527.



Item #01828

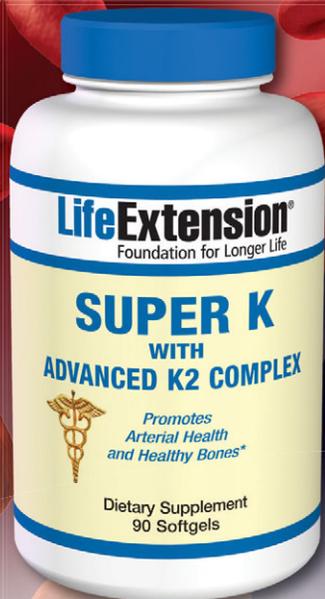
To order
Advanced Lipid Control,
call 1-800-544-4440 or visit
www.LifeExtension.com

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

COMPREHENSIVE VITAMIN K FORMULA



Item # 01724

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

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

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

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

To order
Super K with Advanced K2 Complex
or **Super Booster**, call **1-800-544-4440** or
visit **www.LifeExtension.com**

Super K formula provides in just one daily softgel:

Vitamin K2 (MK-7)	200 mcg
Vitamin K2 (MK-4)	1000 mcg
Vitamin K1	1000 mcg

The retail price for a bottle containing **90 softgels** is \$30. If a member buys four bottles, the price is reduced to **\$20.25 per bottle**.

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

Warning to Coumadin® (warfarin) Drug Users

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

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BY CAROL STOCKTON

OMEGA-7

Protects Against

METABOLIC SYNDROME

Most people are aware of the wide-ranging benefits of omega-3 fatty acids, but you likely aren't aware of a category of **omega-7** fats that provide some unique health effects.

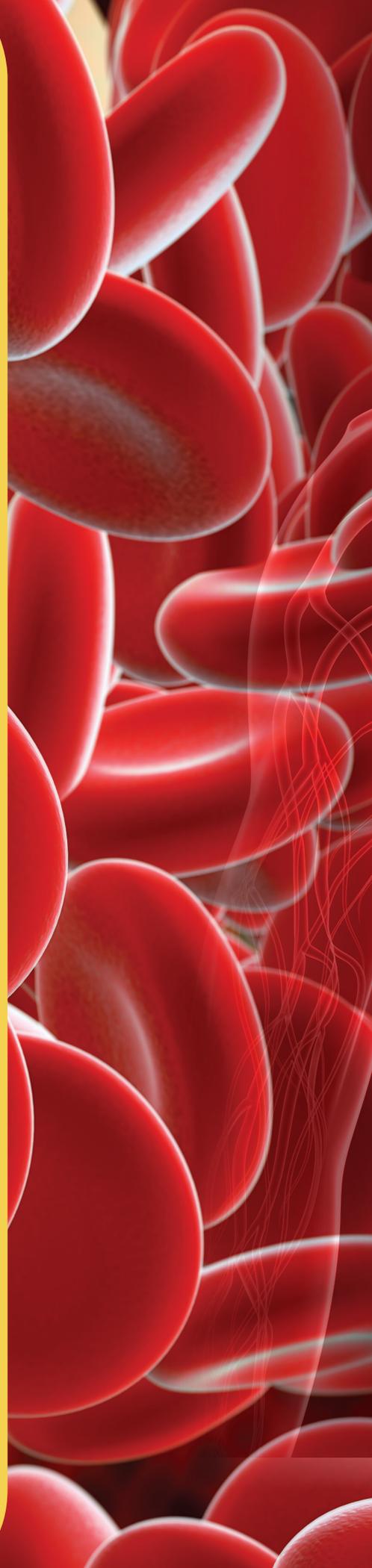
Scientists have recently uncovered a specific kind of **omega-7** called **palmitoleic acid**. This newly discovered fat molecule is so important that **Harvard Medical School** has applied for a patent on it.¹

What's so special about this particular omega-7?

It powerfully addresses many of the underlying factors involved in **metabolic syndrome**.²⁻⁷ This feat would require multiple prescription drugs to achieve⁸—with potentially dangerous side effects. Omega-7 palmitoleic acid can *safely* do all this at a fraction of the cost.

Omega-7 can reduce risk of type II diabetes, prevent the buildup of atherosclerotic plaque, increase beneficial HDL and lower an inflammation marker called **C-reactive protein**, which is associated with an increased risk for heart attack and stroke.^{3,5,7,9}

In these ways, **omega-7** is able to powerfully—and affordably reduce risk of the negative consequences of **metabolic syndrome**—including heart disease, diabetes, cancer, and other life-threatening disorders. >





What Is Palmitoleic Acid?

Palmitoleic acid is a member of the class called **omega-7** fatty acids. Omega-7s include several different fatty acids. For the purposes of this article, when we refer to omega-7, we're referring to **palmitoleic acid**.

Unlike the better known polyunsaturated omega-3s, **omega-7s** are monounsaturated fats.¹⁰ And while omega-3 fatty acids are beneficial largely because they become incorporated into anti-inflammatory molecules,¹¹ omega-7s have an entirely different mechanism of action. Omega-7 fats function as signaling molecules that facilitate communication between fat and muscle tissue in your body.¹²

This special signaling function qualifies omega-7 to be identified as a unique **lipokine**—a hormone-like molecule that links distant body tissues to assure optimal energy utilization and storage.¹²

That's what allows omega-7 to have broad-reaching effects on various factors of metabolic syndrome.^{2-7,13}

Ingestion of just a small amount of **omega-7** has a profound effect on the body's response to energy intake, fat storage, and utilization, all of which are imbalanced in metabolic syndrome. Omega-7 suppresses the production of new fat molecules, especially those fats that damage tissue and raise cardiovascular risk.^{2,14}

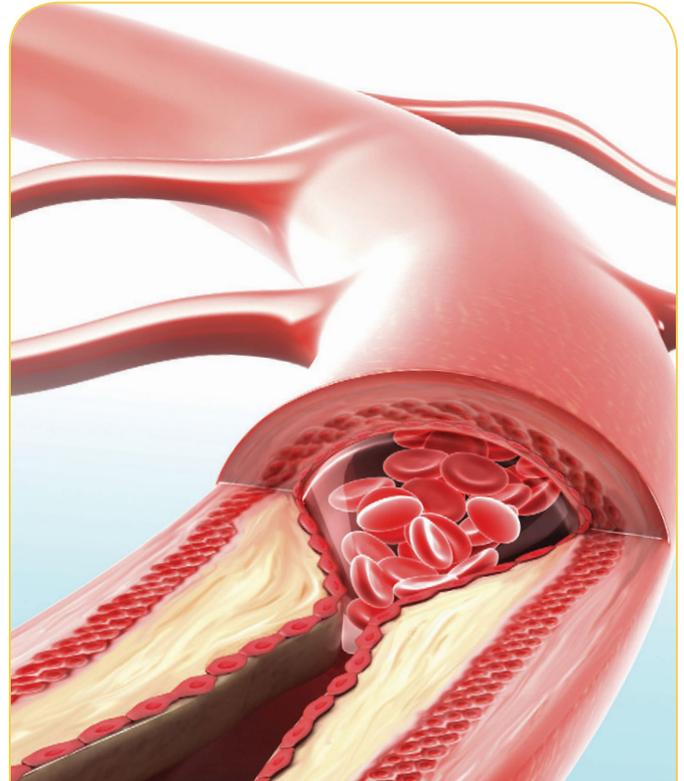
In fact, omega-7's beneficial effects resemble those of many drugs (such as Lipitor®, Actos®, Lopid®, and others) commonly used by people with high cholesterol and/or high blood sugar, major elements of metabolic syndrome that increase the risk of cardiovascular disease.

Omega-7 Fights The Factors Of Metabolic Syndrome

As medically defined, *metabolic syndrome*, a major contributor to cardiovascular disease risk and type II diabetes, consists of:¹⁵⁻¹⁷

1. Elevated glucose and insulin resistance.
2. Lipid disturbances (high triglycerides and low HDL cholesterol).
3. High blood pressure.
4. Central obesity (“apple shape”).
5. Chronic inflammation.

Even though chronic inflammation is not technically a criterion for metabolic syndrome, it is widely recognized as a fifth major pathological contributor to the condition.^{15,17,18}



How Drugs Stack Up Next to Omega-7 Palmitoleic Acid In Metabolic Syndrome^{2-7,23,31,35-54}

Metabolic Syndrome Parameter	Statins (Lipitor® and others)	Fibrates (Lopid® and others)	Glitazones (Actos® and others)	Sulfonylureas (Glipizide® and others)	Omega-7 Palmitoleic Acid
LDL (“bad” cholesterol)	Reduce	Reduce	Increase	No effect	Reduce
HDL (“good” cholesterol)	Little effect- may even decrease	Increase	Increase	Decrease	Increase
Blood sugar	May increase	No effect	Reduce	Reduce (but increase insulin)	Reduce
Insulin resistance	May worsen	No effect	Reduce	May improve	Reduce
Body weight/ composition	Increase weight, decrease fat-free mass	May increase weight and fat mass	Decrease fat	Increase	Reduce appetite
Inflammation	May reduce	May reduce	Reduce	No effect	Reduce
Side effects	Muscle pain (myalgia), may increase risk of diabetes	Gallstones, muscle pain	May increase risk of cardiovascular death	Increased risk of cardiovascular death	None known

If you have metabolic syndrome, it means you are already well along the road to heart disease, diabetes, cancer, and other life-threatening disorders.¹⁶ Fortunately, omega-7 works in five distinct and complementary ways to reduce most of metabolic syndrome's harmful effects on your health:

1. It reduces insulin resistance and lowers blood glucose.^{3,4}
2. It suppresses fat production and accumulation.^{2,3}
3. It normalizes abnormal lipid profiles (including raising beneficial HDL-cholesterol).^{3,5-7}
4. It fights obesity.^{3,13}
5. It powerfully suppresses the inflammation that drives metabolic syndrome.^{3,7}

We will break down each of the factors one at a time in order to see how omega-7 addresses the various contributing factors involved in metabolic syndrome, ultimately reducing risk of cardiovascular disease, diabetes, cancer, and more.

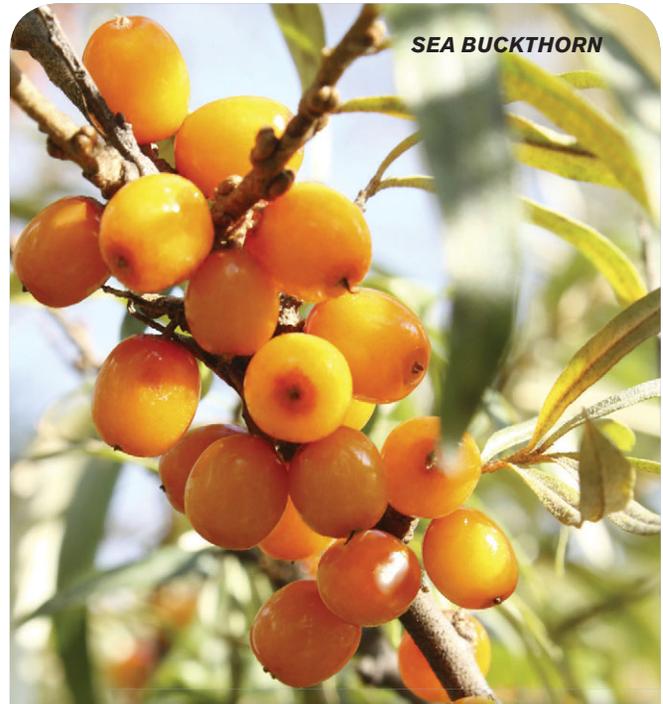
Omega-7 Fights Inflammation

There's a close connection between fat tissue and the chronic, low-grade inflammation that's associated with metabolic syndrome.¹⁷⁻¹⁹ The connection may be related to an enzyme known as **SCD1** (stearoyl-CoA desaturase 1).

When scientists remove SCD1 activity in lab animals, their levels of fat tissue inflammation fall sharply, and their ability to respond to insulin (insulin sensitivity) rises.²⁰ In the lab, adding omega-7 to cultures of fat cells triggers these same benefits by suppressing SCD1 activity.²

Animal studies show significantly reduced levels of fat-related inflammatory cytokines (signaling molecules) following administration of omega-7.³ And the livers of supplemented animals show significant reductions in the number of activated inflammatory cells, an effect that may help prevent fatty liver disease.²¹ Many of these beneficial anti-inflammatory effects may arise from the ability of omega-7 to deactivate the master inflammatory regulation complex called **NF-kappaB**.²¹

There's now impressive human data on how omega-7 can lower inflammation and reduce the resulting cardiovascular risk. In a pilot trial of adults with high levels of **C-reactive protein** (blood marker of inflammation), supplementation with **210 mg** a day of **omega-7** resulted in a robust **73% decrease** of **C-reactive protein**.⁶



What You Need To Know

Guard Against Metabolic Disturbances With Omega-7

- A new healthy fatty acid, omega-7 palmitoleic acid, has joined the ranks of omega-3 fats in protecting your body from the dreaded metabolic syndrome.
- Adding omega-7 to your supplement regimen can help your body mitigate many of the components of metabolic syndrome, including high LDL and low HDL cholesterol, high glucose and insulin resistance, obesity, and even the inflammation that drives the syndrome.
- Big Pharma has at least four categories of drugs to treat metabolic syndrome, but these carry various side effect profiles and can interact negatively with one another.
- Omega-7 may help you reduce the burden of metabolic syndrome in your own body.
- Add omega-7 palmitoleic acid to your omega-3 regimen today to optimize your cardiovascular and metabolic health.

Those results were extended in a larger, randomized clinical trial, in which all patients had abnormally high CRP levels (greater than **3 mg/dL**). In this study, 30 days of supplementation with **210 mg/day** of palmitoleic acid resulted in a significant drop in CRP of **1.9 mg/dL** — that's a **43%** reduction in a dangerous cardiovascular risk marker. Moreover, by the end of the supplementation period, the average CRP level was reduced from greater than **4 mg/dL** to **2.1 mg/dL**.⁷ The health ramifications of this marked reduction in C-reactive protein are profound, especially in abdominally-obese individuals who often exhibit dangerously elevated levels of this inflammatory indicator (CRP).

Omega-7 Lowers Glucose And Insulin Resistance

Omega-7 has multiple beneficial effects on blood sugar and insulin. Researchers discovered that when mice with type II diabetes were supplemented with omega-7, they had lower blood glucose and triglyceride levels.³ At the same time, their insulin resistance and liver fat deposits were significantly reduced. Liver fat deposition is a key factor in metabolic syndrome, and is a leading cause of non-alcoholic fatty liver disease, or NAFLD.³ These animals also experienced decreases in diabetes-related weight gain, and reduced levels of inflammatory cytokines.

Omega-7 produces these encouraging results because it attacks multiple underlying mechanisms responsible for type II diabetes/insulin resistance.

In metabolic syndrome as well as in type II diabetes, the body's cells become resistant to the sugar-lowering effects of insulin. This results in rising sugar levels, and also rising levels of insulin, both of which are toxic in large quantities. Omega-7 counteracts this by doubling glucose uptake by muscle cells, increasing their ability to burn sugar for energy and store it in quick-release, non-toxic glycogen.²²

What happens next is that when your body's cells become resistant to the sugar-lowering effects of insulin, blood sugar will eventually rise. Pancreatic cells that produce insulin are among the casualties of high glucose, eventually resulting in still higher sugar levels and worse tissue damage.²³ Omega-7 protects the insulin-producing cells of the pancreas from glucose-induced toxicity; in fact, omega-7 enhances proliferation of pancreatic beta cells, helping your body optimize blood sugar control with its own natural insulin.²⁴

Omega-7 levels strongly predict insulin sensitivity: One's odds of having beneficially high insulin sensitivity rise dramatically as their blood omega-7 levels rise.⁴

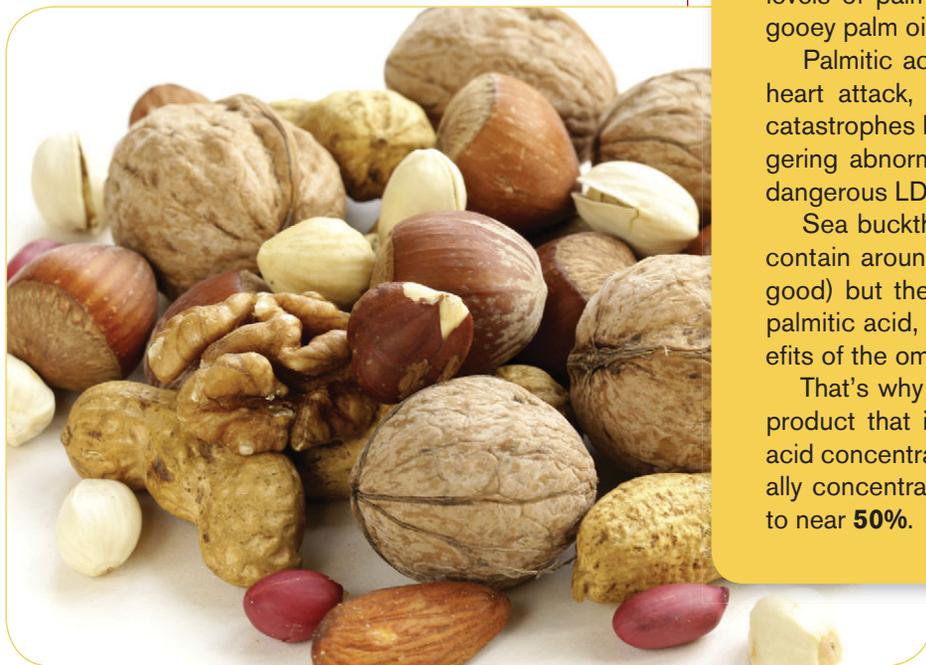
All Omega-7 Sources Are Not The Same

While you can get omega-7 palmitoleic acid from some natural sources, such as macadamia nuts and sea buckthorn, it's important that you be aware that these foods also contain very high levels of palmitic acid. Palmitic acid is a thick, gooey palm oil.

Palmitic acid consumption raises the risk of heart attack, stroke, and other cardiovascular catastrophes by increasing arterial stiffness, triggering abnormal platelet clumping, and raising dangerous LDL cholesterol levels.⁵⁵⁻⁵⁷

Sea buckthorn and macadamia oils typically contain around **11** to **27%** omega-7 (which is good) but they also contain around **9** to **40%** palmitic acid, which can largely negate the benefits of the omega-7.^{58,59}

That's why it's vital that you use an omega-7 product that is purified to reduce the palmitic acid concentration to less than **1%**, and also ideally concentrated to raise the omega-7 content to near **50%**.



Palmitoleic Acid Improves Arterial Health

Omega-7's ability to raise HDL and lower LDL—while also supporting endothelial function—make it extremely beneficial for cardiovascular health.

Studies show that omega-7 improves lipid balance by favorably regulating fat production within fat cells, while regulating fat burning.² That means less fat deposition—and lower levels of fat and triglycerides in blood and liver tissue.^{3,25}

In a lab study done at the **Cleveland Clinic**, omega-7 supplementation increased beneficial HDL after just 8 to 12 weeks (something statin drugs are not very good at doing).^{5,26,27} In the same study, the reduction in the size of atherosclerotic plaque in the aorta was **47% lower** in the group receiving omega-7 supplementation.⁵

Omega-7 levels have also been shown to be powerful predictors of the all-important **endothelial function**, the control of blood flow and pressure by the inner lining, or endothelium, of blood vessels.²⁸

These beneficial effects on cholesterol were demonstrated by a study using macadamia nuts and sea buckthorn, two substances that are known for their high omega-7 content. Studies show that after just three weeks of eating macadamia nuts every day, healthy young women had reductions in total and LDL cholesterol, body weight, and body mass index (BMI).²⁹ And in men with high cholesterol, **1 to 3 ounces** per day of these fat-containing nuts produced reductions in atherosclerosis risk factors such as markers of inflammation and oxidative stress.³⁰

These studies may have shown greater effects had the subjects used a purified omega-7 palmitoleic acid supplement instead of the high-fat macadamia nuts, which are also rich in dangerous palmitic acid.

In a study of patients with stubbornly high lipid levels, a purified **omega-7** supplement (**840 mg/day**) produced modest lipid reductions. **LDL** fell by **7.6%** (from 118 to 109 mg/dL) while **non-HDL cholesterol*** was reduced by **8.2%** (from 147 to 135 mg/dL).⁶ Patients with the highest levels of baseline **triglycerides** saw their total cholesterol and triglyceride levels drop by as much as **30%**.⁶

* (Non-HDL cholesterol is gaining increasing importance as a risk marker for cardiovascular outcomes.⁶ It is calculated as total cholesterol minus HDL cholesterol.)



What makes that study remarkable is that most participants were **already** taking statin or fibrate drugs, yet *still* had high lipid levels.²⁵ This showed that adding omega-7 to these drugs produced additional benefits, lowering cholesterol and triglycerides where prescription drugs couldn't.

In a subsequent controlled clinical trial, patients taking purified omega-7 palmitoleic acid at a lower dose (**210 mg/day**) had improvements in lipid levels after 30 days of supplementation: triglycerides dropped by **36.9 mg/dL (17%)**, LDL by **13.5 mg/dL (11%)**, and beneficial HDL rose by **4.5 mg/dL (10%)**.⁷

Omega-7 Helps Manage Body Weight

The reason central or abdominal obesity (“apple shape”) is a factor in metabolic syndrome is because it has such strong associations with cardiovascular disease risk.³¹ This is due, in large part, to the increased inflammation produced by fat tissue.¹⁷⁻¹⁹

Omega-7s help manage this factor of metabolic syndrome because they signal your body to stop storing fat.^{2,3}

Animals fed diets rich in omega-7 show significant increases in stomach and intestinal hormones that promote the feeling of fullness (satiety).¹³ At the same time, such diets produce decreases in hunger-promoting hormones.³² The combined effect is a significant reduction in food intake.

Several statin drugs, while lowering cholesterol and triglycerides, also produce increases in body and liver fat deposition.³³ Omega-7s do just the opposite. Omega-7 **reduces** the production of fat in the liver.³ Increases in liver fat can result in non-alcoholic fatty liver disease (NAFLD), which is considered a major manifestation of the metabolic syndrome—and which can eventually lead to liver failure and even cancer.³⁴

Summary

Research has shown that *omega-7* has beneficial effects on a majority of the pathological components of *metabolic syndrome*.

It improves insulin sensitivity, lowers LDL-cholesterol-triglycerides, and raises beneficial HDL.^{3,5,22,24,29} It helps manage body weight by promoting fullness-inducing hormones and dissipating hunger-producing hormones.^{13,32} Perhaps most important of all, omega-7 acts in a unique fashion to stop the **inflammation** that forms the link between the metabolic syndrome and its life-shortening consequences.^{3,21}

By beneficially influencing these deadly pathological factors, omega-7 can dramatically improve cardiovascular and metabolic health. ●

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

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ULTIMATE eye HYDRATION

Maintaining eye support is essential for optimal eye health.

As we get older, our eyes become vulnerable to a variety of insults that can cause irritation and dry eye. With just a few drops of the proper eye lubricant, **eye irritation** stemming from **dryness** may be alleviated.

Brite Eyes provides a powerful dose of two well-established lubricants in every drop, soothing eye discomfort without irritation.

Hydroxymethyl-cellulose and **glycerin** are FDA-approved for ophthalmic use and are uniquely preserved with potent **antioxidants** and **anti-glycating** agents.

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

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

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**, call 1-800-544-4440
or visit www.LifeExtension.com

THE NEXT OMEGA...

Are You Getting Your OMEGA-7?

PROVINAL® Purified Omega-7 from Highly Purified Fish Oil
Supports Healthy Metabolic Factors

Omega-3s are already a part of Life Extension® members' health routines and are recognized for their many benefits. But scientists are increasingly excited about the newly discovered effects of a little known family of "good fats"—**omega-7** fatty acids.

Rather than replace omega-3s, the **omega-7** fatty acid **palmitoleic acid** has been shown to powerfully complement omega-3s with its unique cellular-signaling properties that directly support healthy metabolic factors associated with:

- Superior **cardiovascular** health,^{1,2}
- Healthy **inflammatory** response,^{1,3,4}
- Optimum normal metabolism of **glucose** and **insulin**,^{1,5,6} and
- Beneficial modulation of **hunger** and **satiety**.^{7,8}

Unique Cellular-Signaling Support

Palmitoleic acid is a monounsaturated **omega-7** that has been identified as a **lipokine**—meaning a lipid-controlling hormone—making it an incredibly unique fatty acid.⁹

Scientific studies have shown that the cell-signaling and metabolic support provided by **palmitoleic acid** promotes healthy levels of **triglycerides**, **total cholesterol**, **LDL**, and **HDL** already within normal range—after just one month of **210 milligrams** of daily **palmitoleic acid** supplementation.¹⁰

Studies also show that within normal ranges, palmitoleic acid helps balance **C-reactive protein** levels, a marker of whole-body inflammation;¹⁰ optimizes **insulin sensitivity**;^{11,12} and regulates levels of satiety-promoting and hunger-promoting gastric hormones.^{7,8}

Advanced Purified Omega-7

Conventional processing methods result in omega-7 products containing only about **25%** of **palmitoleic acid**. But **Provinal® Purified Omega-7** is concentrated to **50%** beneficial **palmitoleic acid**. This purifying technique also enables superior **palmitoleic acid** availability.

Convenient One-Per-Day Dosing

The suggested daily dosage of one softgel of **Provinal® Purified Omega-7 softgel** provides:

Palmitoleic Acid (Omega-7)	210 mg
[from Provinal® highly refined anchovy and/or menhaden oil] (non-GMO)]	

A bottle of 30 softgels of **Provinal® Purified Omega-7** retails for \$27. If a member buys four bottles, the price is reduced to **\$18** per bottle.

Provinal® is a registered trademark of Tersus Pharmaceuticals, LLC.



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To order Provinal® Purified Omega-7, 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.

ANTI-AGING EFFECTS OF PYCNOGENOL®

Life Extension® **Pycnogenol**® French Maritime Pine Bark Extract is a natural botanical extract containing procyanidins, bioflavonoids, and other health-giving molecules that synergistically support the body's natural defenses against 5 major processes that characterize premature aging. Its effectiveness is backed by 40 years of study.

Life Extension® **Pycnogenol**® French Maritime Pine Bark Extract is designed to counteract premature-aging-related changes by providing support for the following mechanisms:

MEMBRANE FUNCTION: *Pycnogenol*® promotes the integrity and normal characteristics of cell membranes.¹⁻⁴

DNA FUNCTION: *Pycnogenol*® helps support normal DNA function through antioxidant activity and possibly other mechanisms.⁵⁻⁸

EASE INFLAMMATION: *Pycnogenol*® helps ease inflammation by normal modulation of inflammatory cytokine molecules.⁹⁻¹³

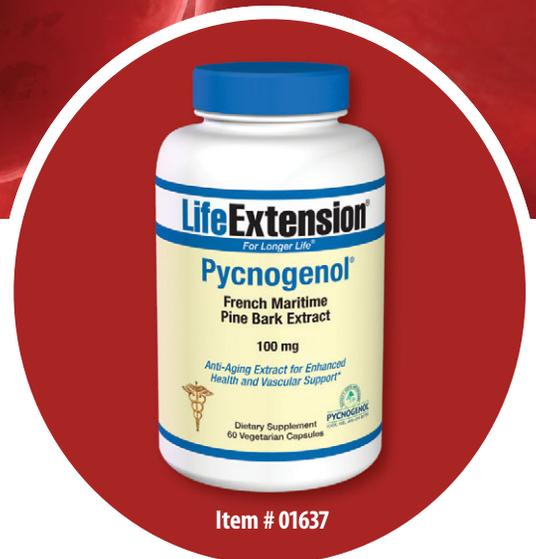
OXIDATIVE STRESS: *Pycnogenol*® supports the normal functioning of healthy antioxidant systems to help suppress free radicals and protect DNA.¹⁴⁻¹⁹

GLYCIATION: *Pycnogenol*® supports cellular metabolism of sugar, healthy fasting, and post-meal blood sugar levels already within normal range, and normal sugar absorption in the intestine.²⁰⁻²⁵

Unlike other forms of pine bark extract, **Pycnogenol**® is a superior patented and standardized ingredient that has undergone extensive human clinical research to substantiate its numerous anti-aging properties. A bottle of **Life Extension® Pycnogenol® French Maritime Pine Bark Extract** containing 60 vegetarian capsules retails for \$64. If a member buys four bottles, the price is reduced to **\$45** per bottle. The dose for most people is one capsule daily, so each bottle lasts **two months**.

Each capsule of Life Extension® **Pycnogenol**® French Maritime Pine Bark Extract provides:

Pycnogenol ® dried French Maritime pine (<i>Pinus pinaster</i>) extract (bark)[std. to 65% procyanidins (65 mg)]	100 mg
Vitamin C (as ascorbyl palmitate)	4 mg



Item # 01637

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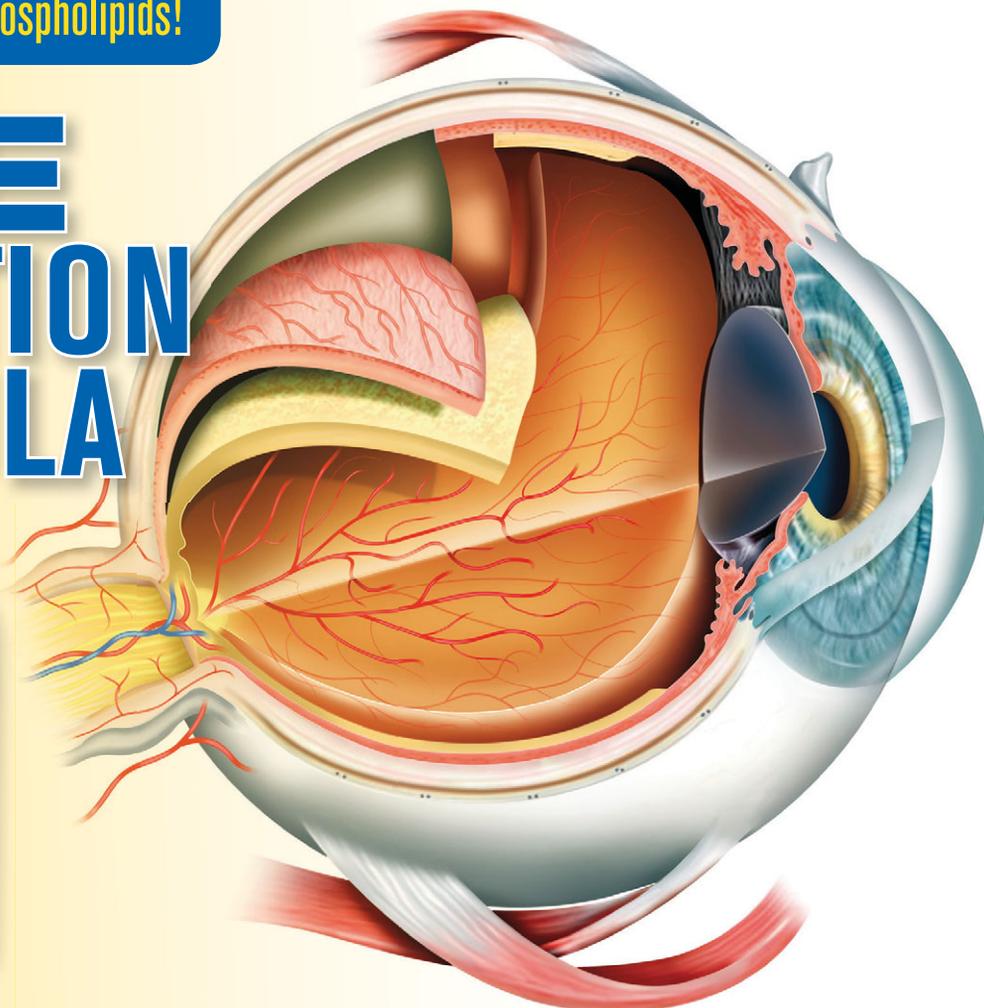
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To order **Pycnogenol**® French Maritime Pine Bark Extract, call 1-800-544-4440 or visit www.LifeExtension.com

Enhanced Absorption With Phospholipids!

EYE PROTECTION FORMULA



Ocular Circulation Support

Lutein is one of the major components of **macular pigment** and it is essential to proper vision.¹ Eating large quantities of **lutein**- and **zeaxanthin**-containing vegetables can help provide the nutritional building blocks necessary to maintain the structural integrity of the macula. It's difficult, however, to increase systemic circulation of these important nutrients through food alone.² Now there is an easier way to bolster your eye integrity.

MacuGuard™ Ocular Support contains **phospholipids**, which are an integral part of the cell membrane. In addition to mixing well with other important fat-soluble components of the eye such as **lutein**, **phospholipids** have been shown to help support efficient **absorption** of dietary lutein in the blood stream as well.²⁻⁷

Phospholipids have been shown in scientific research to improve systemic circulation and accumulations of lutein in the retina of the eyes, making them a potent all-around weapon in your arsenal for eye health.^{6,7}

MacuGuard™ Ocular Support offers TRIPLE EYE PROTECTION:

- Supports concentration of **lutein** in the eye.
- Supports efficient **absorption** of lutein in the blood stream.
- Phospholipids enhance lutein in the cell membrane.
- Supports **zeaxanthin** concentrations in eye.
- Provides **meso-zeaxanthin** which is difficult to obtain from dietary sources.

Comprehensive Ocular Protection in One Daily Softgel

This formula provides ingredients that have been shown to promote healthy eyesight. Just one softgel of **MacuGuard™ Ocular Support** provides:

MacuGuard™ Carotenoid Phospholipid Blend	145 mg
Phospholipids, marigold extract (flower)	
[providing 10 mg free lutein, 4 mg <i>meso</i> -zeaxanthin & <i>trans</i> -zeaxanthin]	
C3G (Cyanidin-3-glucoside)	2.2 mg
[from European black currant extract (fruit)]	

The retail price for a bottle containing 60 softgels of **MacuGuard™ Ocular Support** is \$22. If a member buys four bottles, the price is reduced to **\$14.85** per bottle.

Contains soybeans.

LuteinPlus® and MZ® are registered trademarks of Nutriproducts Ltd., UK, licensed under US Patents 6,218,436 & 6,329,432.

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To order MacuGuard™ Ocular Support call 1-800-544-4440 or visit www.LifeExtension.com

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BY BRADLEY TOMPKINS

CoQ10 AND YOUR HEART

CoQ10

Proven Benefits In Heart Failure Patients

The *European Journal of Heart Failure* has published data from one of the most robust studies to date on **coenzyme Q10**.

This **ten year** study conclusively showed that CoQ10 supplementation significantly improves survival for even the most severe **heart failure** patients while radically reducing incidences of hospitalization.¹

This new study shows that CoQ10 supplementation can restore deficient CoQ10 levels in patients with moderate-to-severe heart failure, extend lifespan, and improve quality of life.¹

The compelling results from this 10-year-long study found that patients who took **100 mg** of CoQ10 three times daily were...

- Significantly less likely to die from heart failure,
- Less than half as likely to die from *any* cause at all, and
- Half as likely to have a major adverse cardiac event during the study period, compared with control subjects.¹





After only three months of supplementation, the researchers detected a trend towards reduced levels of a blood marker of heart failure severity that is released from over-worked heart muscle cells.^{1,2} At two years, significantly more treated patients had improved measurements of heart function than did placebo recipients.¹

This impressive study demonstrates how CoQ10 offers important heart health benefits and how essential it is to cardiac patients. Ideally, the practice of cardiology will soon include CoQ10 as part of their protocol to improve the lives of those living with heart failure. >

Cardiac Bioenergetics

Most people have heard of **heart failure**, but few understand what it really is.

Contrary to what most people might think, heart failure does not mean that the heart stops beating. Rather, heart failure occurs whenever the heart is unable to pump enough blood to sustain normal function in other organs.³

Your heart is one of the hardest-working organs in your body; it literally never takes a rest. Beat after beat, hour after hour, day after day, for your entire life, your heart contracts and relaxes a little more than once per second, providing the blood flow that every other organ in your body relies on.

That much effort requires a steady supply of energy. And to perform at optimal function—literally without missing a beat—your heart needs to be able to derive that energy from its fuel (primarily fatty acids and glucose) efficiently and with little waste.^{4,6}

In order to support this task, your mitochondria pump out a steady supply of energy derived from food. This is called **bioenergetics**.⁷ But your mitochondria don't work alone. Just as a clean-burning automobile engine is more fuel-efficient and lasts longer than an out-of-tune one, the mitochondria need help maintaining top-level efficiency and performance.

CoQ10 is essential for the heart to maintain sufficient energy management.^{1,8} But when CoQ10 levels decline, tissues burn fuel inefficiently, eventually producing oxidative damage and ultimately losing their function. When the heart muscle loses its fuel efficiency, **heart failure** may occur.^{4,9}

Research has shown that CoQ10 levels are lower in patients with heart failure and the lower the levels, the more severe the failure.^{8,10,11} In fact, heart failure patients with lower CoQ10 levels have up to a **two-fold risk** of dying compared to those with higher levels.¹²

CoQ10's Heart-Healthy Track Record

Over the past 30 years, mounting evidence has been establishing CoQ10 as one of the most vital nutrients necessary for heart health.

CoQ10 has been known to benefit cardiac bioenergetics since the 1970s.¹³⁻¹⁵ In 1985, a small study found that patients with the most severe levels of heart failure experienced significant improvements in cardiac function and clinical state during CoQ10 treatment.⁶

Since then, other small studies showed similar improvement in clinical status and heart function testing, typically using doses of **100 to 200 mg/day**.^{9,16} Roughly **75%** of patients taking CoQ10 experienced improvements in cyanosis (bluish skin), liver enlargement, lung examinations, difficulty breathing, palpitations, sweating, heart arrhythmias, insomnia, vertigo, and nighttime urination.^{10,17}

Several of the studies demonstrated an improvement in cardiac functional status, as determined by the New York Heart Association, reducing patients' class levels of heart failure by an average of 0.5 compared with placebo.^{11,18,19} This means that heart failure patients could move from a strict Class II with limitations on physical activity to a class I-II with fewer or even no limitations resulting in substantial improvements in quality of life.

Other studies over the past 15 years or so showed small but significant improvements in objective measures of heart function, such as **ejection fraction** (the proportion of blood pumped out of the heart with each beat), **stroke volume** (volume of blood pumped with each beat), and **cardiac output** (total amount of blood pumped per minute).^{14,20}

But it wasn't until mid-**2013** that results were published from the first comprehensive, double-blind, multi-center study demonstrating the dramatic, life-saving impact of CoQ10 supplementation in patients with **chronic heart failure**.

New York Heart Association Functional Classes Of Heart Failure⁶⁵

Class	Functional Capacity: How a patient with cardiac disease feels during physical activity
I	Patients with cardiac disease but resulting in no limitation of physical activity. Ordinary physical activity does not cause undue fatigue, palpitation, difficulty breathing, or anginal pain.
II	Patients with cardiac disease resulting in slight limitation of physical activity. They are comfortable at rest. Ordinary physical activity results in fatigue, palpitation, difficulty breathing, or anginal pain.
III	Patients with cardiac disease resulting in marked limitation of physical activity. They are comfortable at rest. Less than ordinary activity causes fatigue, palpitation, difficulty breathing, or anginal pain.
IV	Patients with cardiac disease resulting in inability to carry on any physical activity without discomfort. Symptoms of heart failure or the anginal syndrome may be present even at rest. If any physical activity is undertaken, discomfort increases.

Landmark Study Shows CoQ10 Saves Lives Of Heart Failure Victims!

This new study showed that even in patients with the most severe classes of heart failure, CoQ10 supplementation can restore deficient CoQ10 levels, extending life span and improving quality of life.

The study, begun in 2003, included only the most severely affected patients (those in the New York Heart Association class III or IV).¹ In addition to their regular medication, study subjects were randomly assigned to receive either **100 mg** of CoQ10 or placebo 3 times daily. Each patient was followed up with a wide variety of outcomes measures for two years.

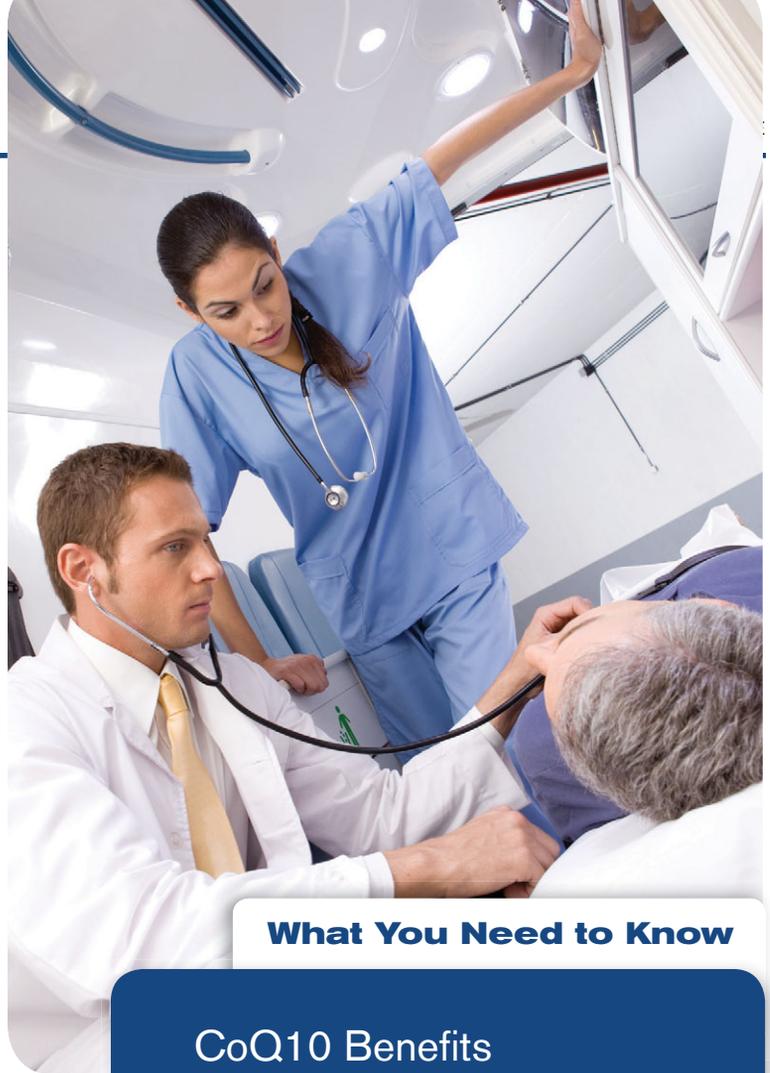
After only three months of supplementation, the researchers detected a trend towards reduced levels of **proBNP**, a marker of heart failure severity that is released from over-worked heart muscle cells.^{1,2} At two years, significantly more treated patients had improved their heart failure class than did placebo recipients.

But the study's main endpoint measurement was the most dramatic indicator of success. Only **14%** of patients in the supplemented group had a major adverse cardiac event (defined as unplanned hospitalization for worsening heart failure, death from a cardiovascular cause, urgent heart transplantation, or artificial mechanical heart support), while **25%** of those in the placebo group had a major cardiac event.¹ In statistical terms, that produced a "hazard ratio" of **2.0**—meaning *the untreated patients had twice the risk of a major cardiac event!*

Compared with control patients, those taking CoQ10 experienced significantly fewer cardiovascular deaths and hospitalizations for worsening heart failure. The difference in death rate from all causes between the CoQ10 and placebo groups was striking. Subjects on placebo had *twice* the rate of death compared to those taking CoQ10.¹ And, unlike most drug studies, there were significantly fewer adverse events in the supplemented group than in the placebo group.

This study was the first ever to show that CoQ10 supplementation in advanced heart failure improves survival, while slashing hospitalization rates.

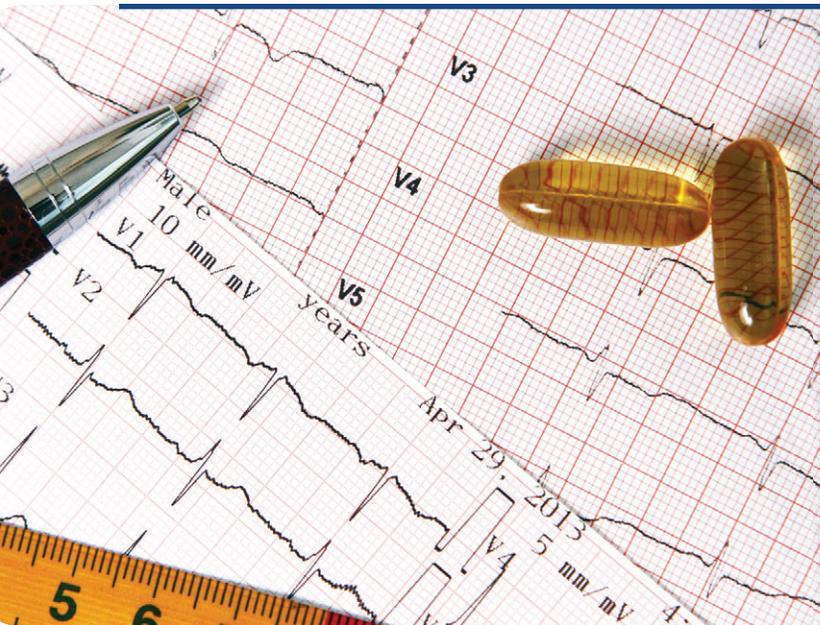
It highlights the importance of regular supplementation with this cardiac "fuel additive" for anyone with heart failure or its risk factors, such as **endothelial dysfunction, hypertension**, and a **history of a heart attack**. Studies have shown that CoQ10 improves each of these risk factors for heart failure. Let's look at each in turn.



What You Need to Know

CoQ10 Benefits Heart Failure Patients

- Loss of efficient energy management, or bioenergetics, is a root cause of heart failure and many other conditions associated with aging.
- Many patients with heart failure are deficient in CoQ10, a nutrient that optimizes bioenergetics in the heart muscle's mitochondria.
- A dramatic new study shows that CoQ10 supplementation can restore deficient CoQ10 levels, extending life span and improving quality of life, even in patients with the most severe classes of heart failure.
- CoQ10 supplementation is finding a role in the management of other cardiovascular disease processes, including endothelial dysfunction, hypertension, heart attack, and the ischemia-reperfusion injury that accompanies heart attacks and strokes.
- Aging changes your basic biochemistry; you can restore optimal bioenergetics with CoQ10 supplementation.



Are You Taking The Right CoQ10?

Most biochemical compounds exist in more than one form. CoQ10 is no exception. A common form of the substance is called **ubiquinone**, and, while it has demonstrated biological activity, it is much less bioavailable than ubiquinol.⁴² **Ubiquinol** is the so-called “reduced” form of CoQ10. In chemical terms, that means it carries an extra electron. This is important because that electron is what allows CoQ10 to help neutralize, or “reduce,” dangerous reactive oxygen and nitrogen species. Therefore, your CoQ10 supplement should ideally contain the **ubiquinol** form of CoQ10.

CoQ10 Improves Endothelial Function

Chronic oxidative stress is one of the main factors reducing the functioning of the endothelium, the thin layer of cells lining arteries that controls blood flow and pressure.²¹ **Endothelial dysfunction** is a major precursor to hypertension, coronary heart disease, and strokes. Since CoQ10 is a unique antioxidant, it makes sense that it would have beneficial effects on endothelial function.

That has proven to be the case. In patients with known coronary artery disease, who are at high risk for heart attack, and who need every bit of functioning endothelium, supplementation with **300 mg** of CoQ10 a day significantly improved their natural endothelial antioxidant levels, improved their arterial relaxation, and improved their oxygen utilization.²²

Similar improvements were seen in patients with New York Heart Association grade II to III heart failure, who experienced a **9%** improvement in oxygen utilization and a **38%** improvement in endothelial function when they used the same dose of CoQ10, with no side effects.²³

CoQ10 has subsequently shown value in improving endothelial dysfunction caused by diabetes and by high LDL-cholesterol, two major contributors to cardiovascular disease.^{24,25} In addition, it reduces blood vessel stiffness, a consequence of endothelial dysfunction.^{26,27}

CoQ10 Lowers Blood Pressure

Oxidative stress and endothelial dysfunction are major causes of elevated blood pressure, which affects about 67 million US adults.^{28,29} CoQ10 supplementation is showing promise in reducing blood pressure in

hypertensive patients, without producing dangerous abrupt drops in pressure.

A multitude of studies have shown that doses of CoQ10 as low as **60 mg** twice daily can lower blood pressure by up to **17.8 points** systolic (top number) and **7 points** diastolic (bottom number).³⁰⁻³² None of these studies reported significant side effects, and CoQ10 is now recommended by some researchers for use in addition to standard drug treatment for hypertension, especially in elderly patients.³³

CoQ10 Reduces Heart Attack Damage

CoQ10 is especially valuable in reducing the damage caused by a heart attack. Never is your heart in greater need of efficient **bioenergetics** than during and immediately after a heart attack. CoQ10 is sharply diminished in heart attack victims. In fact, low CoQ10 levels are associated with an increased risk of dying in post-cardiac arrest patients.³⁴

The main damage in survivors of a heart attack doesn't come from the loss of blood flow itself (ischemia), but rather from the restoration of oxygen-rich blood to tissues that have lacked oxygen for the critical minutes before circulation is restored (reperfusion).³⁵

CoQ10 reduces the impact of ischemia-reperfusion injury by optimizing the heart muscle's bioenergetics and providing antioxidant support during this crucial period.³⁶ Supplementation reduces markers of extreme oxidative stress and poor mitochondrial function, while reducing the rates of post-reperfusion arrhythmias and improving heart muscle functioning.^{37,38}

Studies show that CoQ10 at doses of **100 to 120 mg/day** reduced total arrhythmias and other cardiac

events, increased left ventricular (main pumping chamber) function, and reduced the death rate from repeat heart attacks.^{39,40}

CoQ10 is powerful enough that it has been given intravenously during bypass grafting procedures, where it improved left ventricular functioning 6 to 10 hours after the operation, compared with control patients, and reduced blood markers of heart muscle damage.³⁷ Similar beneficial effects have now been shown in patients who take **150 to 180 mg** of CoQ10 per day for 7 to 10 days prior to elective bypass surgery.⁴¹

What Causes Heart Failure?

Heart failure affects around **5.7 million** Americans, and causes or contributes to more than 335,000 deaths each year. Half of those with heart failure die within 5 years of their diagnosis.³

There are many primary causes of heart failure.^{9,43} The most common include coronary artery disease and high blood pressure but can also include heart attacks, obesity, and diabetes, all of which place excessive demands on the heart muscle, making it work harder and harder just to produce enough blood flow to sustain life at rest. That extra demand for energy uses up CoQ10, resulting in a loss of fuel efficiency precisely when the heart needs every bit of energy it can generate.⁹

Eventually, the heart muscle simply tires out, becoming enlarged and flabby, squeezing more weakly with each contraction, and pumping smaller and smaller amounts of blood out to the body.

Symptoms of heart failure reflect the diminished blood flow to all of the organs in the body, especially the lungs, kidneys, and liver. Such symptoms commonly include shortness of breath even with normal daily activities, difficulty breathing when lying down, and swelling in the lower extremities or lower back. These symptoms are usually accompanied by substantial weight gain ("water weight"), and generalized fatigue and weakness.⁴⁴

Eventually, symptoms worsen, requiring frequent hospitalization with increased risk of life-threatening heart arrhythmias and pulmonary edema.⁴⁴ Even with the best conventional treatment, some people with heart failure, particularly those who in spite of conventional treatment fail to show evidence of clinical improvement, may die within two years.⁶

Summary

Your mitochondria pump out a steady supply of energy derived from the food you supply them with. Like any finely-tuned machine, however, they need help maintaining top-level efficiency and performance.

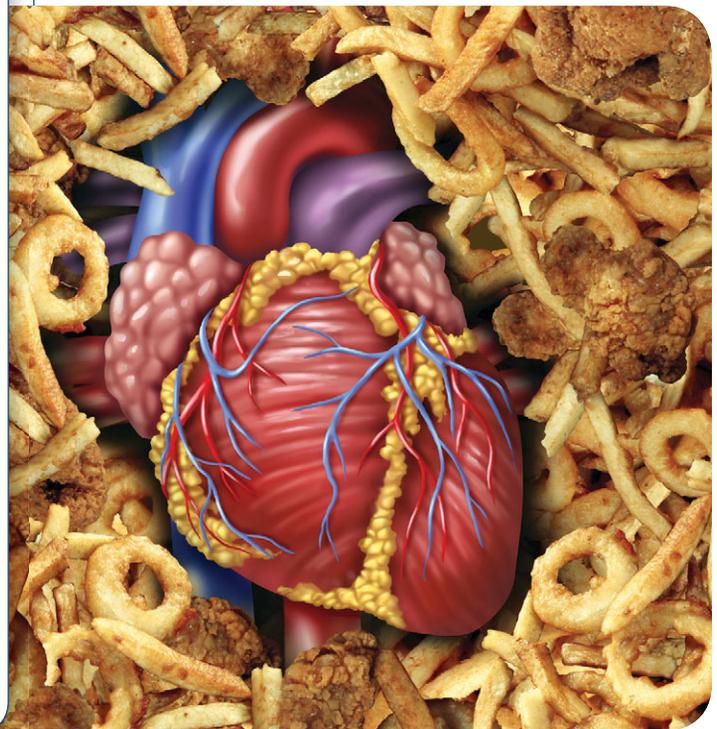
CoQ10 is the main molecule your body requires to keep mitochondrial energy production, or **bioenergetics**, running smoothly. Declining CoQ10 levels cause tissues to burn fuel inefficiently, eventually producing oxidative damage and ultimately losing their function.

CoQ10 deficiency and the resulting bioenergetic collapse is the underlying cause of heart failure, one of the largest causes of death and disability in Americans today. Studies show that CoQ10 supplementation at **300 mg/day** not only restores normal CoQ10 levels, but prevents progression of heart failure and in fact can reverse that progression and extend survival and improve quality of life.

Similar beneficial effects have now been shown in patients with endothelial dysfunction, hypertension, and coronary artery disease, the precursors of heart attacks and ultimately heart failure.

Since we all require efficient and uninterrupted energy supplies, we all need to be thinking about optimizing our bioenergetic status with CoQ10 supplementation. ●

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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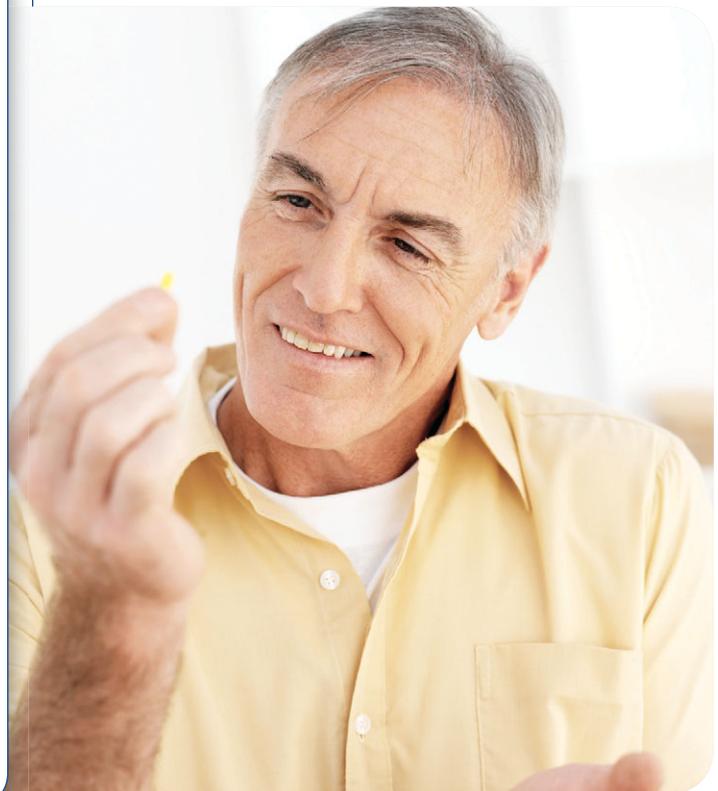
CoQ10 Shows Promise In Cancer Prevention

Low levels of CoQ10 have been correlated with increased cancer risk in some populations.⁴⁵ This is due in part to the fact that cancer cells are enormous users of energy, perturbing the bioenergetics of surrounding tissue and bathing host cells in free radicals and other destructive byproducts.

Though research is still in its early stages, CoQ10 supplementation is showing real promise in counteracting these effects to slow—and in some cases reverse—cancer's progression. Here is a synopsis of scientific progress:

- CoQ10 along with vitamin B6 boosted the function of cancer-fighting immune cells.⁴⁶
- CoQ10 alone or in combination with B vitamins enhanced the efficacy of the anti-breast cancer drug tamoxifen in animal studies, and decreased plasma markers of metastasis and new blood vessel growth in human breast cancer patients.⁴⁷⁻⁵⁰
- CoQ10 suppressed development of pre-cancerous lesions in animal models of colon cancer.^{51,52}
- CoQ10 increased median actual survival by more than **40%** in patients with a variety of end-stage cancers.⁵³

It seems all but inevitable that further studies will highlight greater benefits in humans, especially at the level of prevention rather than treatment, an area in which mainstream medicine is sadly lacking.



CoQ10 Protects Your Brain

Your brain receives the largest proportion of total blood flow from your heart; as a result, it has some of the most volatile fluctuations in bio-energetic demands.⁵⁴ Because of this, CoQ10 is of tremendous importance in maintaining brain health and preventing neuronal damage.

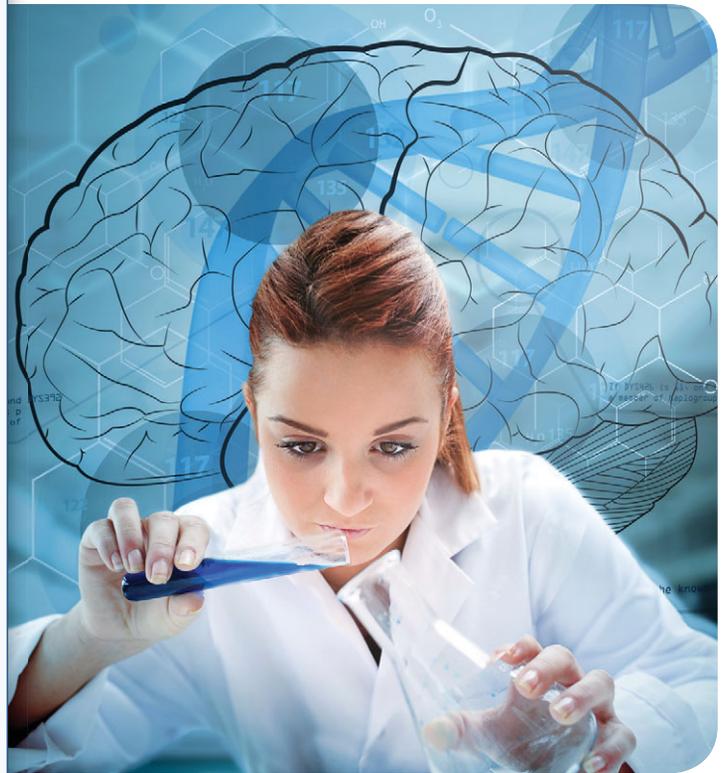
Unfortunately, studies have clearly shown a loss of CoQ10 functioning in the aging brain—with severe deficiencies in those with neurodegenerative disorders such as Parkinson's and Alzheimer's diseases, and following strokes.^{55,56}

Fortunately, laboratory studies have shown that supplementing with CoQ10 has multiple brain-protective effects, especially in aging animals. Take a look:

- CoQ10 has been shown to *decelerate* the aging process in a strain of mice with abnormally accelerated aging.⁵⁷
- When aging, stroke-prone mice were supplemented long-term with CoQ10, they had smaller volumes of damaged brain, and larger volumes of healthy, functioning brain.⁵⁸
- In culture dishes, CoQ10 kept brain stem cells alive following periods of oxygen deprivation (as seen in strokes), setting the stage for possible recovery through new cell development.⁵⁹
- In a mouse model of Alzheimer's disease, CoQ10 decreased the amount of destructive amyloid beta plaque in brain tissue, while improving the animals' behaviors.⁶⁰
- In aging mice at risk for Parkinson's disease, supplementation reduced the loss of dopamine-producing neurons and raised brain dopamine levels (dopamine is the neurotransmitter that is diminished in human Parkinson's).⁶¹

Preliminary human studies show good results as well—especially in patients with early and mild Parkinson's disease. CoQ10 at **360 mg/day** produced moderate reduction in symptom scores, while **1,200 mg/day** appeared to slow functional decline in those with early disease.^{62,63} Studies have shown that up to **3,000 mg/day** is well tolerated, with **2,400 mg/day** being the highest dose used in studies involving Parkinson's patients.⁶⁴

The superior absorption of the **ubiquinol** form of CoQ10 would allow lower doses to be used. Those with congestive heart failure or neurological conditions should ideally strive for a coenzyme Q10 blood level of over **3.5 micrograms** per milliliter (mcg/mL).⁶⁶



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VASCULAR BENEFITS OF A Mediterranean Diet

VALIDATED IN HUGE NEW STUDY

A large, rigorous study published in the *New England Journal of Medicine* confirmed the health benefits of those who switch to a **Mediterranean diet** rich in **omega-3 fish oil** as well as protective nutrients called polyphenols found in **olive oil**, fruits, vegetables, nuts like walnuts, and wine.¹ The study ended early because the benefits were so overwhelming, with startling benefits for vascular health, that it was considered unethical to continue to deprive the control group.¹

In addition to the health-promoting benefits of vegetables and fruits with their abundance of polyphenol nutrients, the Mediterranean Diet group took at least **4 tablespoons** of polyphenol-rich extra-virgin **olive oil** a day.¹

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Starting in **2005**, Life Extension members began taking a supplement (**Super Omega-3**) that provided potent concentrations of **fish oil** and **olive polyphenols** like hydroxytyrosol and oleuropein. This supplement also provided standardized **sesame lignans** to support the beneficial effect of omega-3 fatty acids in the body.²

Olive oil contains polyphenol nutrients that have demonstrated wide-ranging health benefits.³⁻⁵ The recommended twice daily dose of **Super Omega-3** supplies a similar polyphenol content to that found in **4 to 6 tablespoons of olive oil**.

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

Supportive but not conclusive evidence shows that consumption of EPA and DHA omega-3 fatty acids may reduce the risk of coronary heart disease. IFOS™ certification mark is a registered trademark of Nutrasource Diagnostics, Inc. These products have been tested to the quality and purity standards of the IFOS™ program conducted at Nutrasource Diagnostics, Inc.

SUPER OMEGA-3 WITH SESAME LIGNANS AND OLIVE FRUIT EXTRACT

To ensure the purest, most stable, and easy-to-tolerate fish oil, **Super Omega-3 EPA-DHA** is *molecularly distilled*. It enjoys the highest **5-star rating** for **purity, quality, and concentration** from the renowned **International Fish Oil Standards** program.⁶ The **sesame lignans** not only direct the omega-3s toward more effective pathways in the body, but guard the delicate fish oil from oxidation.^{2,7}

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

The daily dose (four regular size softgels) of Super Omega-3 EPA/DHA with Sesame Lignans & Olive Fruit Extract provides:

EPA (eicosapentaenoic acid)	1,400 mg
DHA (docosahexaenoic acid)	1,000 mg
Olive (fruit and leaf) Extract [std. to 6.5% polyphenols (39 mg), 1.73% hydroxytyrosol/tyrosol (10.4 mg), 0.5% verbascoside/oleuropein (3 mg)]	600 mg
Sesame Seed Lignan Extract	20 mg



Item #01482

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CoQ10, Shilajit, and PQQ

*Triple-Action
Mitochondrial Support!*

Life Extension® continues to develop increasingly potent mitochondria-boosting formulations.¹⁻⁴

Super Ubiquinol CoQ10 With BioPQQ® contains **shilajit** (which studies have shown doubles CoQ10 levels in the mitochondria), **plus** the breakthrough compound **PQQ** (shown to support the **spontaneous generation of new mitochondria** in aging cells). This represents a **three-way** strategy for enhanced mitochondrial support!

1. SUPER UBIQUINOL COQ10

CoQ10 is required to convert the energy from fats and sugars you eat into usable cellular energy. More people are supplementing with CoQ10 than ever before. A key reason is increased awareness that the body's production of CoQ10 declines significantly with advancing age.⁵ "Statin" drugs also deplete CoQ10 levels in the blood and, possibly, tissues.^{6,7} For example, statin drugs reduce plasma CoQ10 by almost **40%**—but the aging process *itself* reduces CoQ10 levels in the heart muscle wall by **72%**⁸

Scientific studies show that **absorption** of the **ubiquinol** form of CoQ10 is far greater than the conventional

ubiquinone form. In middle-aged mice, **ubiquinol** was shown to be **40% more effective** in slowing measurements of aging, compared to ubiquinone.⁹ Life Extension® offers this highly bioavailable ubiquinol form of patented CoQ10 in an advanced delivery system, providing an unparalleled absorption level.¹⁰

2. ENHANCED SUPPORT WITH SHILAJIT

PrimaVie® shilajit has been shown to **double** levels of **CoQ10** in mitochondria!¹¹ Combining CoQ10 and shilajit produced a **56% increase** in energy production in the brain—**40% better** than CoQ10 alone. And in muscle, there was a **144% increase** in energy production—**27% better** than CoQ10 alone.¹²

Shilajit boosts CoQ10's beneficial effects by stabilizing CoQ10 in the superior **ubiquinol** form.^{13,14} Additionally, shilajit facilitates more efficient delivery of CoQ10 into the mitochondria, which results in greater cellular energy production.¹⁵⁻¹⁸ Shilajit itself is rich in essential compounds that help the mitochondria convert fats and sugars into **ATP** (adenosine triphosphate), the body's main source of energy.¹⁶



ITEM # 01733

3. PQQ PROMOTES GROWTH OF NEW MITOCHONDRIA!

Supporting mitochondria is one thing. But until recently, the only options for aging individuals to promote replenishment of the declining numbers of mitochondria in their bodies were long-term calorie restriction or exhaustive physical activity—difficult or impractical for most aging people.

Now PQQ offers a viable alternative: PQQ (*pyrroloquinoline quinone*) promotes **spontaneous production of new mitochondria!**¹⁹

In fact, PQQ promotes youthful cellular function in **three** distinct ways:

- **Promotes mitochondrial biogenesis.** PQQ activates genes that promote the formation of *fresh mitochondria!*¹⁹ It also beneficially interacts with genes directly involved in mitochondrial health. These same genes support *healthy body weight, normal fat and sugar metabolism, and youthful cellular proliferation.*²⁰
- **Mitochondrial defense.** Mitochondria possess their *own* DNA, distinct from those contained in the cell nucleus. Unfortunately, compared to nuclear DNA, mitochondrial DNA are relatively unprotected—and yet situated at the *source* of both energy and free-radical production! PQQ's antioxidant potency and favorable gene-expression profile powerfully boost mitochondrial defense.
- **Antioxidant power.** PQQ is a potent antioxidant. Its extraordinary molecular stability enables it to facilitate thousands of antioxidant reactions in the mitochondria—*without breaking down*—for maximum antioxidant and bioenergetic support.²¹

PQQ is an **essential nutrient**, meaning that your body cannot make it on its own. A wealth of research demonstrates that—alone and especially in combination with CoQ10—its unique nutritional profile supports heart health and brain function.²²⁻²⁴ This should be no surprise, given how much energy these vital organs need.

Life Extension® has identified a purified, highly potent form of PQQ from Japan that is produced through a unique fermentation process. The result is some of the highest quality PQQ available today.

BREAKTHROUGH WEAPON IN THE BATTLE AGAINST AGING!

Super Ubiquinol CoQ10 With BioPQQ® combines:

- **CoQ10** in a super-absorbable *ubiquinol* form.
- **Shilajit** to synergistically boost mitochondrial CoQ10 levels and youthful cellular energy.
- **PQQ** to support spontaneous generation of new mitochondria in aging people.

The suggested dosage of one (1) softgel daily of Super Ubiquinol CoQ10 With BioPQQ® provides:

Ubiquinol (as Kaneka QH® Ubiquinol)	100 mg
PrimaVie® Shilajit fulvic acid complex	100 mg
BioPQQ® Pyrroloquinoline quinone disodium salt	10 mg

A bottle of 30 softgels of **Super Ubiquinol CoQ10 With BioPQQ®** retails for \$54. If a member buys four bottles, the price is reduced to **\$37.50** per bottle.

The optimal dose of PQQ is **20 mg** each day. Members taking **Mitochondrial Energy Optimizer, Mitochondrial Basics, or PQQ 10 mg caps** obtain this optimal PQQ dose when taking the new **Super Ubiquinol CoQ10 with PQQ**.

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**To order Super Ubiquinol
CoQ10 With BioPQQ®, call 1-800-544-4440
or visit www.LifeExtension.com**

BY MICHAEL DOWNEY

Beyond Depression . . .

SAMe

Broad-Spectrum Protection Against Disorders Of Aging

SAMe (*s-adenosylmethionine*) originally gained notoriety as a safe and effective alternative to anti-depressant drugs.

Research demonstrated that **SAMe** was equally effective as certain drugs in alleviating depression, without the side effects often associated with these antidepressants.^{1,2} SAMe's wide-ranging systemic health benefits are less well-known.

In addition to boosting brain chemicals important to mood health, SAMe promotes the synthesis of other compounds that are crucial to functions such as gene expression and DNA repair.³

As a result of these many biochemical effects, scientists have demonstrated that SAMe may play a unique role in preventing, treating, or reversing numerous disorders of aging—including Alzheimer's, fibromyalgia, inflammatory bowel disease, insomnia, osteoarthritis, and liver disease.³

In this article, we will explore SAMe's range of anti-aging benefits throughout the body. >



How SAME Inhibits Diseases Of Aging

The compound **SAME**, (*S-adenosylmethionine*) is found in virtually every tissue and fluid in the body, and it is required in a myriad of biochemical reactions.^{4,5} Since SAME occurs in virtually all living cells, scientists believe that it has long assisted cells in defending against destructive influences.⁶

One of the most important processes SAME is involved in is *methylation*, in which it acts as a methyl donor to support a multitude of chemical reactions.⁷⁻⁹ Vital biochemical processes in the body rely on methylation. These include the synthesis of nucleic acids (DNA and RNA), proteins, phospholipids, and neurotransmitters. SAME and the methylation reactions it promotes help regulate gene expression, lipid and mineral metabolism, membrane structure, and fluidity.^{3,9-11}



SAME contributes to the production and recycling of our body's signaling molecules such as hormones and neurotransmitters, including serotonin, dopamine, and noradrenaline (also known as norepinephrine).³

Your body's ability to appropriately methylate may decline with age, leading to increased risk of many chronic age-related diseases including cancer, neurodegeneration, and autoimmune disease.⁹⁻¹¹ SAME's critical methylation effect can **block** disease and slow certain aging processes.

In addition, SAME is necessary for the synthesis of *glutathione*, which means it plays an important role in protecting the body from free radical-induced aging.^{3,9} Glutathione is crucial for liver function. The liver is the organ most responsible for purifying toxins in the body.³ SAME plays an important role in enhancing the antioxidant power of superoxide dismutase (SOD).¹²

Lastly, SAME is required for synthesizing a group of compounds known as *polyamines*.^{3,8} Polyamines are critical for the effective regulation of normal cell growth,^{3,9} and evidence suggests they play a role in programmed cell death (apoptosis).¹³

Polyamines facilitate DNA repair, gene expression, neuron regeneration, and protein phosphorylation (the addition of a phosphate group to a protein). One particular polyamine, *spermidine*, has been called a "universal anti-aging drug" because of its longevity effects across a number of experimental models from single-cell organisms such as yeast to more complex mouse models.¹⁴

These many biochemical reactions triggered by SAME provide protective benefits well beyond the antidepressant effects for which it is best known—and help explain why SAME has such a wide range of **anti-aging** and **anti-disease** activities.

SAME Blocks Aging Diseases— From Alzheimer's To Arthritis

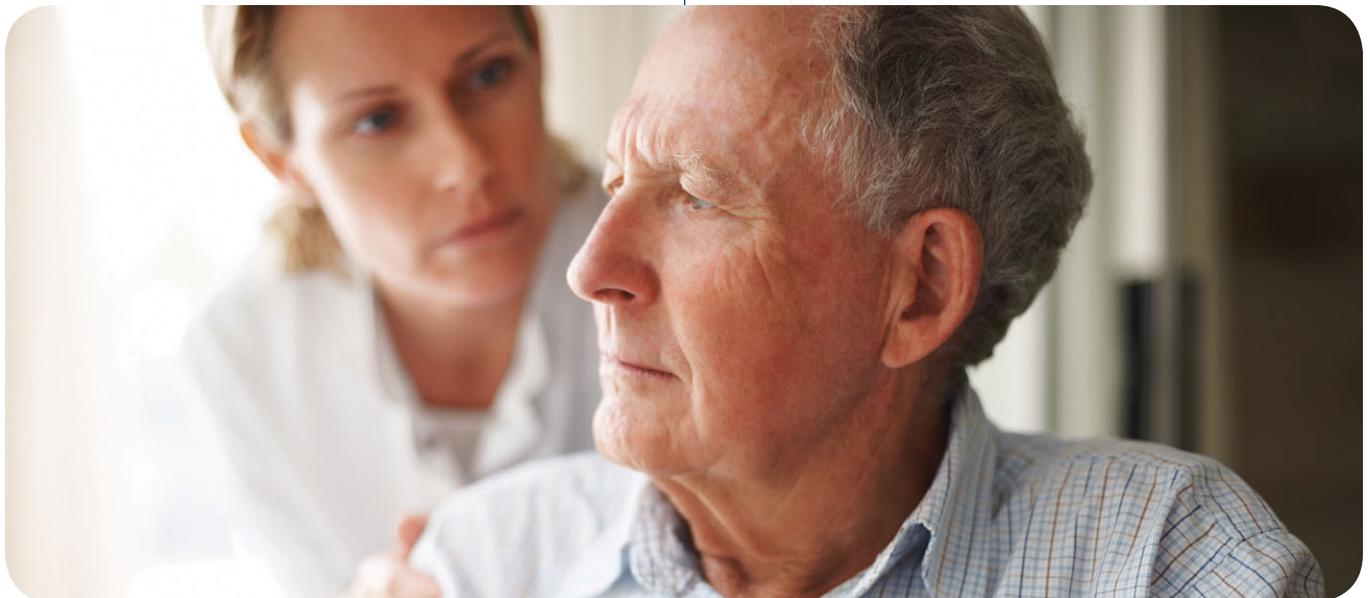
SAME is present in virtually every body cell. It promotes the synthesis of compounds that are critical to vital functions such as gene expression and DNA repair. These favorable mechanisms reveal how **SAME** can exert **potent** defense against a spectrum of chronic diseases associated with aging.^{4,5} Following, is a discussion of the benefits of SAME against **seven** diseases of aging.

1. Alzheimer's Disease And Dementia

Recently, dementia was estimated to afflict **36 million** people globally, a toll that is expected to more than **triple** by 2050, according to the group Alzheimer's Disease International.¹⁵ However, in a promising development, experts have recently discovered a crucial finding that gives us a clue to an underlying cause of Alzheimer's disease. It turns out that Alzheimer's patients have severely **low** levels of SAME, even significantly lower than those found in patients with depression.^{16,17}

Since SAME beneficially promotes an important chemical reaction known as *methylation*,^{7,9} lack of SAME could lead to disturbances in this methylation process, which could be a key driver behind Alzheimer's disease.¹⁶ In fact, one theory suggests that impaired methylation occurs in **several** different neurological and psychiatric disorders.¹⁸ There is even evidence that the gradual loss of the methyl group contributes to the aging process itself!¹⁶

SAME has also been found to have a beneficial effect on two of the proteins associated with Alzheimer's disease, *beta-amyloid* and *tau*.¹⁹



In an animal study, scientists found that SAME reduced production of amyloid plaque, increased spatial memory, and inhibited *tau phosphorylation*, the process behind the accumulation of intracellular proteins known as *neurofibrillary tangles* that are characteristic of Alzheimer's. Furthermore, SAME treatment reduced plaque spreading. The researchers encouraged further studies to evaluate the use of SAME "...as a potential candidate drug for the treatment of the disease."¹⁹

Another study conducted on mice showed that SAME supplementation decreased brain deposits of beta-amyloid plaque by **80%** after just **one month** of treatment!²⁰

As an added bonus, scientists believe that supplementation with SAME can improve cognitive function and reduce depression—both of which are common symptoms associated with Alzheimer's.^{1,16}

Supplementing with **1,200 milligrams** of SAME daily for four to six months increased the level of SAME in cerebrospinal fluid in patients with Alzheimer's by **62.5%**.¹⁶

2. Parkinson's Disease

The second most common neurodegenerative disorder after Alzheimer's is Parkinson's disease, which is estimated to affect about **7 to 10 million** people worldwide and as many as **1 million** Americans.^{21,22} As with Alzheimer's, research reveals a direct correlation between levels of SAME and Parkinson's disease.²³

In aging individuals stricken with Parkinson's, increased markers of neurodegeneration have been found when methylation factors such as SAME are low.²³ Conversely, cognitive function is better when levels of SAME are proportionally higher.²³

SAME has a number of underlying mechanisms that help support healthy brain function. SAME supports the brain through the key process of methylation.^{7-9,18} SAME also supports brain levels of **glutathione** and enhances the antioxidant power of **superoxide dismutase (SOD)**.¹² These twin capabilities further help explain SAME's potency as a neuro-protective compound.

3. Fibromyalgia

Fibromyalgia is a disorder characterized by musculoskeletal pain, fatigue, and mood changes. Although there is no known cure for this disease, SAME has been found to be effective against some of its worst symptoms.

In a double-blind human trial, scientists gave fibromyalgia patients either **400 milligrams** of SAME twice daily or placebo. SAME produced improvements in pain, fatigue, morning stiffness, and mood.^{24,25}



What You Need To Know

SAME's Biochemical Effects Block The Diseases of Aging

- Since Life Extension introduced **SAME** to American consumers 17 years ago, it has become established as a potent, natural antidepressant.
- However, scientists now know that SAME promotes the synthesis of chemicals throughout the body that are critical to vital functions such as gene expression and DNA repair.
- Extensive research now demonstrates that SAME is powerfully effective at safely preventing, treating, and/or reversing numerous diseases. These include Alzheimer's, Parkinson's, fibromyalgia, inflammatory bowel disease, insomnia, osteoarthritis, liver disease—and even the root of aging itself!
- Although SAME was a relatively expensive nutrient when first introduced to the US market, the cost of producing pharmaceutical-quality SAME has been greatly reduced—making SAME an essential addition to every well-rounded supplement regimen.

SAmE Boosts Neurochemical Synthesis To Block Depression

SAmE has been demonstrated to play many essential roles in the body, but these functions have been greatly *overshadowed* by its well-established effects against depression.

Perhaps that's because SAmE fills the growing need for depression therapy more effectively¹ and much more safely² than available drug options.

Depression is a major public health problem that afflicts about **10%** of American adults.⁵¹ However, Harvard researchers found in 2010 that "the majority of depressed patients will not experience remission when treated with a first-line antidepressant."⁵² In other words, *antidepressant drugs will not work for most people.*

Even more alarming, a 2011 review of seven double-blind clinical trials⁵³—conducted by researchers affiliated with Eli Lilly, the company that makes the antidepressant **duloxetine** (Cymbalta[®])—reported that over **23%** of those taking antidepressant medication failed to respond to the treatment!

But modern high-tech imaging of healthy human brains revealed that SAmE delivers potent antidepressant effects equivalent to certain antidepressant drugs.¹ And unlike those drugs, SAmE has remarkably few side effects and is well-tolerated.¹

In clinical trials, doses of **200 to 1,600 milligrams** of SAmE daily consistently resulted in rapid improvement in depressive symptoms and produced side effects that were mild and transient.^{1,54,55} For example, in 2004, a team of Harvard psychiatrists gave **800 to 1,600 milligrams** of SAmE daily to 30 patients shown to be resistant to treatment with antidepressant drugs.⁵⁶ The researchers found that **50%** of these patients responded to treatment, with a remarkable **43%** experiencing *remission of symptoms*.⁵⁶

Then, a 2010 study funded by the National Institute of Mental Health evaluated SAmE's benefits in augmenting existing drug treatments in patients who were resistant to FDA-approved antidepressant drugs.⁵⁷ This double-blind, placebo-controlled trial involved giving test patients **800 milligrams** of SAmE twice daily along with a selective serotonin reuptake inhibiting drug (SSRI). Compared to the subjects on placebo, these previously resistant patients who received the SAmE-plus-drug therapy showed a **105%** higher response rate and a **120%** higher remission rate⁵⁷—more than **double** the response and remission rate within just *6-weeks of treatment!*



In other studies, SAmE showed similar benefits, and appears to provide safe and effective management of fibromyalgia.^{26,27}

4. Inflammatory Bowel Disease

Supplementing with SAmE could also be beneficial for patients suffering from inflammatory bowel disease. Scientists found that these individuals have low concentrations of SAmE, suggesting that insufficient SAmE levels may play a role in distinguishing influences such as sulphur toxicity as "a causative mechanism in inflammatory bowel disease."²⁸ A subsequent study revealed that SAmE supplementation in combination with other antioxidants improved inflammatory factors and intestinal symptoms and returned low blood levels of glutathione to normal values in an animal model of severe colitis.²⁹

5. Insomnia

SAmE has a beneficial effect on those suffering from insomnia. It plays an important role in the synthesis of melatonin, a hormone associated with sleep.³⁰ Melatonin has been studied as a treatment for insomnia, delayed sleep-phase syndrome, and circadian rhythm sleep disorders.³¹ However, production of this hormone appears to decrease with age.³² Fortunately, SAmE promotes the function of the enzyme that converts N-acetylserotonin to melatonin.³³

Furthermore, by promoting melatonin production, SAME may be inhibiting the process of aging itself! Melatonin is a recognized *geroprotector*³⁴—a therapeutic agent that targets the root cause of aging and age-related diseases, and thus prolongs life span. Melatonin has been demonstrated in animal studies to prevent premature aging and carcinogenesis and to increase average life span.³⁴

6. Osteoarthritis

SAME is known to target osteoarthritis, which affects over one-third of those over age 65.³⁵ In a comprehensive meta-analysis, scientists found that SAME was as effective as NSAIDs (non-steroidal anti-inflammatory drugs) in alleviating pain and optimizing joint function— but without the adverse effects that come with taking NSAIDs.³⁶

When compared to ibuprofen, SAME was found to be as effective,³⁷ or more effective,³⁸ in reducing painful joint manifestations—including morning stiffness, pain during rest and motion, swelling, “cracking” sounds, and limited range of motion in arthritic joints.^{37,38} Yet side effects were three times more common with ibuprofen.³⁸



Confirming these effects, subsequent clinical trials demonstrated that SAME blocks pain and stiffness in aging individuals with osteoarthritis.³⁹ Remarkably, *in vitro* and animal studies indicated that SAME stimulates **cartilage** production—crucial to halting and *reversing* arthritis.³⁹

7. Liver Disease And Gallstones

Because the liver has over 500 critical functions, from synthesizing compounds to removing contaminants, diseases that impair the liver’s ability to carry out these functions can be life-threatening.⁴⁰ Without SAME, liver cells are less efficient at performing **vital** detoxification reactions—but scientists found that cirrhosis patients have alterations in the pathway that produces SAME.⁴¹

Insufficient SAME levels are linked to various liver diseases, including nonalcoholic fatty liver disease and nonalcoholic steatohepatitis.^{42,43} In multiple studies, patients with various liver problems (including drug toxicity) responded well when administered SAME, showing signs of improvement in liver function and in some cases restoration of normal liver function.^{5,44-46} In a trial of patients taking **1,600 milligrams** of SAME daily, scientists found that evidence of liver damage was greatly reduced, including decreased blood bilirubin levels.⁴⁷

SAME was shown to treat alcoholic liver disease by at least **four** mechanisms: increasing glutathione levels, repairing glutathione transport into mitochondria, reducing toxicity of inflammatory cytokines, and increasing DNA methylation.⁴⁸ Furthermore, SAME may help prevent liver disease by increasing gene expression within liver cells involved in alcohol metabolism, boosting alcohol elimination rate after binge drinking.⁴⁹

SAME could also help prevent gallstones in women. In a controlled study of women taking oral estrogen contraceptives, **600 milligrams** of SAME daily reduced bile cholesterol, suggesting SAME may also prevent gallstones in women with increased estrogen levels.⁵⁰

Summary

Since Life Extension® introduced **SAME** to American consumers 17 years ago, it has become well-known for its potent antidepressant effects.¹

However, decades of accumulating studies indicate that this remarkable natural compound promotes the synthesis and reactions of chemicals throughout the body that are **critical** to key functions such as gene expression and DNA repair.^{4,5}

As a result, scientists have now demonstrated that SAME is effective in safely preventing, treating, and/or reversing numerous diseases, including Alzheimer's, Parkinson's, fibromyalgia, inflammatory bowel disease, insomnia, osteoarthritis, liver disease—and even the root causes of aging itself!^{5,12,16,20,23,24-27,29-31,34,37-39,44-47}

Although SAME was a relatively expensive nutrient when first introduced to the US market, the cost of synthesizing pharmaceutical-quality SAME has now been greatly reduced—making SAME a more affordable addition to a well-rounded supplement regimen. ●

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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GREEN TEA EXTRACT

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

The good news for consumers is that they can obtain **high-potency standardized** green tea extract capsules at a fraction of the original price.

The Life Extension Foundation Buyers Club offers **98% green tea extracts** in either a **lightly caffeinated** or **decaffeinated** form. These **98%** extracts are standardized to provide high potencies of critical **EGCG**, the most important **polyphenol** found in green tea.

These highly concentrated **Mega Green Tea Extract Caps** contain **725 mg** of either **lightly caffeinated** or **decaffeinated 98% standardized** green tea extracts. The retail price for **100 vegetarian capsules** of **Mega Green Tea Extract** is **\$30**.

If a member buys four bottles of **725 mg Mega Green Tea Extract** capsules, the price is reduced to **\$21 per bottle**. Most people take just one capsule daily, meaning each bottle lasts over three months.



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

SAMe FOR BRAIN HEALTH

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

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

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

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

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



Item # 00557

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

A box of 20 **400 mg** SAMe tablets retails for \$28. When a member buys six boxes, the price is reduced to only **\$18** a box—a **savings of 35%**!

(SAMe is also available in bottles containing 50 400 mg tablets. Retail price is \$66. If a member buys four bottles, the price is reduced to \$45 per bottle.) (Item # 01055)

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To order your supply of premium-grade SAMe,
call 1-800-544-4440 or visit www.LifeExtension.com

CAUTION: SAMe should not be taken by those diagnosed with bipolar disorder.

*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.

NEW Winter Wellness™

Primes Immune Response at Super LOW Cost

Every **winter**, human immune systems are overworked as they provide essential defense against **seasonal** challenges—*especially the immune systems of the elderly and very young.*¹⁻⁴

A crucial part of this protection comes from the immune system's production of new antibodies when the **new** winter season's pathogens are first introduced, which boosts the body's preparedness for upcoming challenges during peak winter outbreaks.⁵

In a remarkable discovery, the amino acids in **Winter Wellness™** have been shown to *work together* to **prime** the immune system to optimize immune responsiveness.^{4,6-8}

Taken daily, they support the host immune system's primary defenders by enhancing the function of key immune cells to generate antibodies and naturally *prime* readiness—especially when taken at least **two weeks prior** to the first pre-season exposure to the winter's new antigen challenges.^{4,6,7}

Optimized Immune Responsiveness to New Winter Challenges

L-theanine is a distinctive amino acid typically found almost exclusively in tea leaves.⁸ **L-cystine** is an amino acid synthesized by the body from the cysteine molecules found in many plant and animal food sources.⁹ Scientists have found that L-theanine and L-cystine have potent, complementary effects on immune responsiveness.^{6,7}

Now combined in the next-generation, immune-supporting product **Winter Wellness™**, L-theanine and L-cystine promote the natural enhancement in responsiveness that follows pre-season **antigen-exposure** by:

- Helping to enhance *gamma delta T cells*, ensuring an optimum state of readiness to respond through secretion of *interleukin-2*—a powerful immune regulator.⁶
- Supporting the release of immune system proteins that coordinate interactions between *T cells* and *antibodies*—further promoting immune responsiveness.¹⁰
- Contributing to the synthesis of *glutathione*—a potent endogenous antioxidant—that has a marked effect on immune function.^{4,11}

Scientific data supports that when these potent amino acids are used **together**, they support an enhanced post-exposure immune response.^{4,6-8}

Clinically Validated Antibody Support

A double-blind, placebo-controlled clinical trial on humans found that the two amino acids in **Winter Wellness™** significantly promoted antigen responsiveness.⁶

A group of nursing home residents over age 65 were co-administered **280 milligrams** of *L-theanine* and **700 milligrams** of *L-cystine* once daily for 14 days. After controlled exposure to several new winter antigens on the 15th day, the scientists found that for certain groups, supplementation resulted in an increased rate of **seroconversion**—the point at which the immune system first develops **antibody protection** against a microorganism as a *result* of new antigen exposure.⁶

Winter Wellness™ powerfully *primes* the immune system against seasonal winter challenges.

The suggested daily dosage of two capsules of **Life Extension® Winter Wellness™**, or as recommended by a healthcare practitioner, provides:

L-Cystine	700 mg
L-Theanine	280 mg

Low-Cost Ingredients

A bottle of 60 capsules of **Life Extension® Winter Wellness™** retails for \$15. If a member buys four bottles, the price is reduced to **\$9.75** per bottle.



Item# 01739

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To order Life Extension® Winter Wellness™, 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.

NEW
**Four-Food
 Formula**

Target PSA!

Breakthrough Research

A high percentage of men will endure some form of prostate-induced discomfort over the course of their lifetimes.¹

A placebo-controlled, double-blind trial presented **September 2013** reported that a specific blend of **pomegranate, green tea, turmeric, and broccoli**—formulated together in a capsule called **Pomi-T®**—powerfully maintained healthy levels of *prostate specific antigen (PSA)*!²

Life Extension® now offers this same capsule for men who are serious about supporting and protecting their prostate as they age—by **targeting PSA**. The four foods in **Pomi-T®** have healthful benefits for your entire body. But their constituent molecules, naturally present in food, have now been shown to concentrate within prostate tissue and provide a rich array of complementary, prostate-supporting, **PSA-modulating** mechanisms.³⁻¹⁹



• POMEGRANATE

- Specifically concentrates in prostate tissue³
- Supports healthy *apoptosis*, your body's system of removing senescent cells when needed⁴⁻⁶
- Promotes healthy levels of inflammatory response, inhibits androgen receptor expression, and inhibits abnormal cell migration.^{5,7,8}



• GREEN TEA

- *EGCG*, a green tea *catechin*, specifically concentrates in prostate tissue where it regulates *PSA (prostate specific antigen)* production to maintain healthy PSA levels^{9,10}
- Helps modulate genetic expression and activity of *androgen receptors*¹¹
- Supports body's natural defenses against oxidation.¹²



• TURMERIC

- Promotes a healthy level of inflammatory response, chiefly due to its main component, *curcumin*¹³
- Helps modulate cell signaling mechanisms, inhibiting abnormal cell adhesion and migration.¹⁴
- Promotes healthy cell proliferation and apoptosis.¹⁵



• BROCCOLI

- Helps regulate enzymes (*phase II detoxifying enzymes*) in gut and liver tissue that helps render harmful dietary molecules harmless¹⁶
- Helps promote healthy PSA levels¹⁷
- Supports regulation of cell growth and transcription factors and normal production of apoptosis-inducing proteins^{18,19}



Item #01797

The novel and scientifically validated blend of food in **Pomi-T®** represents the **next generation** of targeted support for the aging prostate!

The suggested daily dosage of two vegetarian capsules of Pomi-T® provides:

Pomi-T® Super Foods Proprietary Blend	960 mg
Broccoli (florets and stalks) powder, Turmeric (root) powder	
Pomegranate (whole fruit) powder, and Green Tea (leaf) extract 5:1	

A bottle of 60 vegetarian capsules of **Pomi-T®** retails for \$33.33. Members of the Life Extension Foundation pay only **\$25** per bottle.

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To order **Pomi-T®**,
 call 1-800-544-4440
 or visit
www.LifeExtension.com

BY MICHAEL DOWNEY

Google

Wants To EXTEND YOUR LIFE

Google has announced that it is about to devote a chunk of its vast financial, technological, and creative resources to solving a daunting problem—**mortality**.¹

With sufficient funding, it has been estimated that the benefits of discovering how to slow down the basic aging process could be realized **within a few years!**²

But tragically, while both government and private funds are generously allocated to finding cures for age-related diseases,³ funding has been lacking for research into how we may be able to cure **aging itself**—by intervening directly in the biological aging process.

Although the world's **1,426 billionaires**⁴ could easily fund their own rescue from the horrific consequences of aging, very few have demonstrated the clear vision and self-interest to do so.

This article looks at how Google's bold venture—marrying long-range thinking, guts, technology, big data, and genomics—may act as a catalyst that ultimately unlocks some secrets to slowing or **reversing** aging. At the least, it may help *indirectly* by boosting, among the extremely wealthy, the popularity of **private funding** of longevity research. >





Google Shines New Spotlight On Anti-Aging Research

Google—the highly successful search, email, and tech giant—plans to launch **Calico**, a distinctly separate, and somewhat mysterious, biotech company.¹ What will Calico *do*, exactly? At this point, Google is being highly secretive about their plans for Calico. All Google would reveal is that Calico will focus “in particular on the challenge of aging and associated diseases.”¹

Google CEO Larry Page explained: “With some longer term, moonshot thinking around healthcare and biotechnology, I believe we can improve millions of lives.”⁵ Considering Google’s **deep pockets** and innovation-based track record—and the fact that aging afflicts everyone—that may be an understatement.

Don’t expect other companies to follow suit just yet. Smaller firms don’t have the money. And larger firms generally don’t have the sufficiently long-range view of profitability to pursue what Page calls “moon shots”^{5,6}—outside-the-box research **not** focused on immediately obvious product potential.⁶

But Calico could produce startlingly **counterintuitive** breakthroughs as a result of Google’s strengths in the following areas:

- Non-commercial dedication—*rather than a focus on commercial marketing of mediocre drugs as pharmaceutical companies now do.*
- Vast consumer access and core data-handling skills —*with unprecedented data gathering, pattern-matching, and causal-relationship detection.*
- Ability to attract the brightest minds—*potentially preferring to work on life-and-death problems instead of cutesy apps and games.*

Most important? Calico is extremely unlikely to suffer from inadequate funding. Its parent, Google, has a cash stockpile of over **\$54 billion**.⁷

Will Calico help defeat aging? That’s anybody’s guess. But there’s a **more** pressing question.

The government is in a position to massively fund anti-aging research. So are some well-capitalized corporations. And the world’s **billionaires** have a total net worth of **\$5.4 trillion**.⁴ Yet extremely little funding flows into longevity research from any of these sources.

So the **real** question is: Why can’t they see that making the kind of pro-longevity investment that Google is making would be in **their own personal self-interest**?

Why Isn’t Much More Funding Available?

Much of the answer seems to be *self-defeating* assumptions. The government doesn’t consider aging to be a disease.³ And corporate executives and most billionaires consider slowing the aging process to be unfeasible. It’s important to educate the public to the fact that aging is like cancer—a deadly **disease** for which a cure **can** eventually be found.

Many institutional researchers view anti-aging as after-the-fact treatments for the disabling and cosmetic effects of aging. The goal of **regenerative medicine**, however, is developing a process that “replaces or regenerates human cells, tissues, or organs to restore or establish normal function.”⁸ In other words, the goal is to prevent or cure *all* of the effects of degeneration due to aging.

Insufficiently persistent and vocal advocacy for any goal limits its funding, so corporations and venture capitalists focus only on immediate development of products. Billionaires focus on other causes. And government money—as you’ll now learn—is limited and misallocated.

Did You Really Think The Government Was Funding Life Extension Research?

In 2010, out of its total yearly budget of **\$31 billion**, the US National Institutes of Health (NIH) sets aside a mere **3.7%** for the National Institute on Aging (NIA), which is charged with studying aging.⁹ In turn, the NIA spends **71%** of that amount (or **\$818.6 million**) specifically on research project grants.¹⁰



But these research projects include single-disease focused projects such as Alzheimer's disease and are not the same as life span-extension research.

The NIA's aging research goal is to "discover new and effective ways to make added years as healthy and productive as possible."¹⁰

Translation? The NIA is interested in potentially making your later years healthier—but is **not** interested in adding **more** of those years. Shouldn't the goal be slowing down aging itself, rather than targeting age-related diseases one by one? Tragically, government bureaucrats apparently believe pathological aging and death cannot—or *should* not—be prevented.³

Worse, the NIA funds only "extramural research at universities, research centers, and medical centers...as well as a vibrant intramural research program at NIA laboratories."¹⁰ Bottom line? Radical scientists pursuing paradigm-shifting, "moon shot" breakthroughs—but who are *not* working in straitjacketed institutional settings with conservative traditions—need not apply.

Most frustrating is that the research cost of researching ways to slow the basic process of biological aging has been estimated at a mere **\$3 billion** in annual investment—*which would be required for just a few years in order to derive benefit!*¹² In terms of government spending on health research, this is very little money.

This amount is **40% less** than the funds spent exclusively on cancer research every year by the National Cancer Institute *alone*.¹¹ Yet aging is a major risk factor for cancer, and retarding the aging process could **dramatically** slash cancer rates!

Another way of looking at the **\$3 billion** needed to conquer aging is this: It's equal to around **just 1%** of the recent Medicare budget.² Yet delaying aging would more than **pay for itself** in reduced healthcare costs!²

So if you think your many tax dollars are going towards *true* anti-aging research, **think again!**

Hundreds Of Billions Donated By Wealthy— But Not For Anti-Aging Research

Without government funding, finding a **\$3 billion** annual investment to defeat aging seems daunting, even if required only for a few years.² The best remaining hope is to educate **wealthy individuals** about the possibilities—and mobilize them.

Meaningful life extension success will require extremely wealthy individuals who are interested in their **own** health and longevity and who see the charitable benefit for **all** humans. Until now, only a very few wealthy individuals have stepped forward...far too few.



What You Need to Know

Google's Bold Anti-Aging Initiative

- **Google** has announced it will use its vast financial and creative resources to launch Calico, a venture aimed at tackling the problem of aging.
- Estimates suggest that as little as **\$3 billion** invested annually into research on biological aging could reveal a way to slow down aging and achieve benefits *within just a few years!*
- Tragically, the government spends **over \$3 billion** in tax dollars annually on "health concerns" of the elderly, while considering aging itself not to be a disease. And almost *none* of the world's 1,426 billionaires, with a total net worth of **\$5.4 trillion** and considerable charitable donations, has allocated funding for life extension research.
- Google's entry into this arena may act as a desperately needed catalyst to finally encourage the government, other corporations, and more of the extremely wealthy to fund research into retarding biological aging—unlocking the secrets to reversing aging.

It seems odd that so few billionaires care enough about their **own** process of aging to death to do anything about it. More likely, they simply don't believe anything **can** be done—being potentially ignorant of the state of life extension science and the promises of rejuvenation biotechnology.

It's certainly not that the extremely wealthy aren't charitable. Some donate half of their wealth to a variety of favorite causes **unrelated** to extending life span.¹² Bill Gates and Warren Buffet have asked about **40** of the world's richest individuals to sign the **Giving Pledge**, a commitment to donate at least **50%** of their fortunes to charities. Signatories include filmmaker George Lucas, hotel mogul Barron Hilton, and oil tycoon T. Boone Pickens.¹²

Most of these vast sums go to social, environmental, or narrowly defined disease causes. Although these philanthropies benefit some, anti-aging research would benefit everyone on the planet—including these sponsors—making it the **most far-reaching of all charities**.

A cancer cure would benefit only those stricken with cancer. And a complete cure for all cancers would increase overall human life expectancy by just **three years!**¹³

A study published in October 2013 found that even modest, early gains in *slowing aging* would decrease diseases of aging so much that a 51-year-old could expect to gain over **twice** the number of healthy years as could be gained from even optimistic advances against *individual fatal diseases*, such as cancer or heart disease!¹⁴

Study Finds Slowing Aging Will Produce More Healthy Years Than Disease Research!¹⁴

A study published in the October 2013 issue of *Health Affairs* by top scientists at USC, Harvard, Columbia, the University of Illinois at Chicago, and other institutions found that investing in **delaying aging** would have a much greater impact on life expectancy than investing in diseases of aging directly.¹⁴

On the heels of Google's announcement that the company's new enterprise, Calico, will research aging, this new study shows that even modestly slowing the aging process would mean an **additional 5%** of adults 65 and over would be **healthy**, rather than disabled, every year from 2030 to 2060.¹⁴ By contrast, research on fatal diseases would generate almost **no** increase in the overall number of healthy older adults.

In other words, an investment in delayed aging would increase the number of healthy adults 65 and over by **11.3 million** in 2060. But investing in fatal diseases of aging would not.

In the last half-century, life span increases have been driven by finding ways to reduce mortality from fatal diseases. But now, **disabled** life expectancy is rising faster than **total** life expectancy, decreasing the number of years one can expect to live in good health.

The study shows that if we can age more slowly, we can delay the onset and progression of many fatal and disabling diseases *simultaneously*.

The scientists found significantly lower and declining returns for continuing the current "disease model" of research that seeks to treat fatal diseases independently—rather than tackling the shared, underlying cause of fatal and disabled diseases: **aging** itself.

About the same number of older adults would be alive but **disabled** in 2060 whether we do nothing or continue to combat cancer and heart disease individually.

The team concluded that over the next 15-20 years, major breakthroughs in cancer or heart disease would result in a 51-year-old expecting to live only about **one** more year. But a slight delaying of the aging process would provide **2.2** additional years, most of which would be spent in good health.¹⁴

The increase in healthy years of life from an investment in slowing aging would generate an economic benefit of about **\$7.1 trillion** over the next 50 years—*without* factoring in the effects of improved cognitive benefits for older adults from delayed aging. There would also be less per-person spending on medical costs. These economic benefits are too great to ignore, suggested the researchers.¹⁴

"Shifting the focus of medical investment to delayed aging instead of targeting diseases individually would lead to significant gains in physical health and social engagement," said the lead study author, Dana Goldman of USC.

"We need to begin the research now," said S. Jay Olshansky of the University of Illinois-Chicago, another member of the research team. "We don't know which mechanisms are going to work to actually delay aging, and there are probably a variety of ways this could be accomplished, but we need to decide now that this is worth pursuing."²⁵



This new model found that investing in delayed aging would increase the number of **healthy** adults over age 65 by over **11 million** by 2060—while investing in cures for aging diseases would have an effect barely better than **doing nothing at all!**¹⁴

Bottom line? Donations towards specific diseases are **not** significantly relevant to our future life span, or even health span.

Only a few rare billionaires have funded research from which **all** humans stand to benefit.

A Few Billionaires ‘Get It’ And Step Forward

Larry Ellison, cofounder and CEO of software giant Oracle, said that he intends to donate at least **95%** of his considerable wealth to charitable causes and has “already given hundreds of millions of dollars to medical research and education.”¹⁵

After its inception in 1998, the Ellison Medical Foundation became the largest private funder of research on aging and the second overall funder—second only to the NIA. It provided over \$300 million to fund biomedical research on aging, life span, and age-related diseases and disabilities—including telomeres, longevity genes, DNA and mitochondrial damage, Alzheimer’s disease, neural development, degeneration, cognitive decline, and more.

Unfortunately, that’s all **changed** now.

In 2010, Ellison signed The Giving Pledge.¹⁶ Just three years later, in September 2013—after 15 years of funding basic biomedical research—the Ellison Foundation announced that it has **stopped funding**

these programs.¹⁷ No new grant applications will be accepted and the hundreds of millions that *would’ve* financed anti-aging research will now go to an unspecified “new direction.”¹⁷

No reason was given. But it is a safe wager Ellison has failed to see, or **believe in**, the profound impact his donations could eventually have had on his own rescue from the devastating effects of aging—along with all of mankind.

Fortunately, a few other billionaires still support anti-aging study.

Peter Thiel, cofounder of PayPal, funneled **several million** dollars into the dynamic SENS Research Foundation.^{18,19} The pioneer biomedical gerontologist **Aubrey de Grey** serves as Chief Science Officer for SENS, which stands for Strategies for Engineered Negligible Senescence. This crucial research focuses on a collection of proposed techniques to rejuvenate the human body—with the ambitious, long-range goal of **reversing biological aging!**

Thiel explained his SENS pledge this way: “I believe that [de Grey’s] revolutionary approach to aging research will accelerate [greatly improved longevity], allowing many people alive today to enjoy radically longer and healthier lives.”¹⁸

David H. Murdock, chairman and sole owner of Dole Food Company Inc.—drawing on his **\$2.4 billion** net worth^{20,21}—finances the North Carolina Research Campus (NCRC).

NCRC focuses on the therapeutic powers of fresh plants, fruits, and vegetables in hopes of unlocking information about how these foods promote health and may one day conquer the **diseases** of aging.²¹

So unlike SENS, Murdock’s funding of NCRC does not support research specifically on biological aging.

At last, Google’s pending entry into the anti-aging field stands to **transform** the funding landscape.

Calico—Rare Corporate Funding For Anti-Aging Research

“Now is the right time for a commercial entity to get heavily involved,” explains de Grey, commenting on Google’s recent announcement.²²

“One of the key activities of SENS Research Foundation...is proof-of-concept research on key components of the anti-aging arsenal that are still too early-stage to constitute an attractive business proposition for all but the most visionary investors... [but] our ultimate goal is to **kick-start** a real anti-aging industry.”²²

Calico’s founding suggests that goal is in sight.

Calico is shorthand for California Life Company. But incoming Calico CEO Arthur Levinson, a scientist

with a PhD in biochemistry, likes the image of a calico cat²³—with *nine lives*. Levinson says that when approached about this venture, “I was deeply intrigued. For example, what underlies aging? Might there be a direct link between certain diseases and the aging process? We agreed that with great people, a strong culture and vision, and a healthy disregard for the impossible, we could make progress tackling these questions...”²³

Google’s Page says, “...it’s still very early so there’s not much more to share yet,” but his commitment comes through. “Art [Levinson] and I are excited about tackling aging and illness. These issues affect us all... [and] ...exact a terrible physical and emotional toll on individuals and families...this is clearly a longer-term bet...”²⁴

Well, first, a “longer-term bet” is exactly what anti-aging research demands. Second, the involvement of Google should generate *shorter-term* effects on funding that ultimately may shorten that time-frame.

Google constitutes a high-profile player, attracting media attention at every turn. If Google does it, you know it’s *big*. The bigger the player, the more important its support becomes, because **boosting funding** for anti-aging research requires supercharging its image—which is sadly disconnected from merit and utility. So in the unlikely event that Calico turns out to be a massive failure, it will have **raised awareness** of the *urgency* of this research and attracted brilliant scientists to the field.

Inspired by the higher profile that Google brings to anti-aging, more **billionaires** might realize that the **most** charitable thing they can do—for others and themselves—is fund anti-aging research. If you can do that, it would be foolish not to. What do you have to lose?

To help, we need to use Google’s example to **reach out** to wealthy individuals and encourage them to support aggressive research to find a cure for aging—if not for our own benefit, for the gift we can bestow on our children.

Aubrey de Grey has long recognized that the urgent need for ramped-up financing for the war on aging is greatly dependent on winning the battle for the hearts and minds of “high-profile academics who occupy the pinnacle of opinion-formation.”²² We need to enlighten them about this quest’s *feasibility*.

He believes now that, “With Google’s decision to direct its astronomical resources to a concerted assault on aging, that battle may have been transcended: once financial limitations are removed, curmudgeons no longer matter.”²²

“I won’t go so far as to say that my crusading job is done, but for sure it just got a whole lot easier.”²²

Summary

Google plans to launch the firm Calico, through which it will invest some of its vast financial and creative resources to help solve the daunting problem of aging.¹

With an investment in biological aging research of just **\$3 billion** annually, it is estimated that discovering a way to retard the aging process might be achieved *in just a few years!*²

Tragically, while the government spends **over \$3 billion** annually on “health concerns” of the elderly,^{9,10} it operates on the assumption that aging is not a disease.³ Corporations lack the longer-term view needed. And extremely few of the world’s **1,426** billionaires,⁴ with a total net worth of **\$5.4 trillion**,⁴ have included anti-aging research in their charities.

Google’s bold venture may be the urgently needed catalyst that finally encourages the government, other companies, and more of the extremely wealthy to fund research into slowing biological aging—unlocking the secrets to **reversing** aging. ●

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 Foundation® Funds Longevity Research

One of the key reasons we've been unable to slow or reverse the process of aging to death is that too few people realize that the science clearly shows that this goal is **achievable**. It's important to educate bureaucrats, corporate executives, researchers, and the public to the fact that aging is a disease that can be treated. It's in everyone's self-interest—and it is the **best gift** anyone can give to the future—to make anti-aging research a personal priority today.

Educating and motivating others is the first step in overcoming the epidemic of apathy surrounding funding for promising **age-reversal** research projects.

Although it does not receive *government* funding, the non-profit **Life Extension Foundation®** is the world's largest organization dedicated to funding pioneering scientific research aimed at achieving an indefinitely extended healthy human life span.

Established **34** years ago, the Foundation has provided more than **\$130 million** to biomedical research projects across the country. Unlike the National Institute on Aging, the foundation's policy is to award grants to scientists who are personally committed to **extending human life span** and who are conducting scientific research that goes beyond the scope of academic institutions and biomedical companies.

In other words, we are careful to commit our research dollars to projects that are difficult or impossible to fund with conservative **government** and institutional grants. This enables our grant dollars to accomplish a lot more than most government-sponsored research, which is conservative, often wasteful, and in some cases, entirely useless.

Drug companies spend billions of dollars developing what they know they can patent, and often convince the federal government to subsidize research on their patented products. On the other hand, the Foundation is willing to fund anti-aging research involving un-patentable agents because we want to find out what works, whether it can be patented or not. Moreover, even when the research we fund leads to patents, these are usually for fundamental **breakthrough discoveries** with vast potential for extending healthy life span, rather than patents for "me-too" drugs that try to carve out a small niche in a large field already overpopulated with similar drugs.

Unlike commercial supplement companies that spend their profits to grow their businesses, and to line the pockets of their owners, Life Extension Foundation® uses the proceeds it receives from product sales made by the **Life Extension Buyers Club** to support innovative scientific research to extend human life span. Since little money is spent on advertising, the foundation depends on its members for **referrals** of people they know who could benefit from the integrated disease prevention and treatment protocols we have developed over the past two decades.

You can support life span-extension research by becoming a member of the Life Extension Foundation® and by **telling people** you know about the urgency of gaining control over aging, which would extend the number of years of healthy human life.¹⁴

ULTIMATE PROSTATE PROTECTION

Now With **Thymoquinone**

At Life Extension®, we continually update our formulas to reflect the latest research findings.

Ultra Natural Prostate formula, now upgraded to include **thymoquinone**, provides the latest scientifically validated, standardized botanical extracts 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 supporting the aging prostate gland. Here are the ingredients in the new **Ultra Natural Prostate** formula:

- **Thymoquinone** targets prostate cells to promote healthy **apoptosis** (orderly removal of senescent cells).¹⁻⁹
- **Standardized lignans** convert to *enterolactone* in the intestine, which is then absorbed into the bloodstream to provide support for prostate cells against excess estrogen levels.¹⁰⁻¹²
- **AprèsFlex®**, supports normal inhibition of *5-lipoxygenase* or *5-LOX*, an enzyme that is associated with undesirable cell division changes.^{13,14}
- **Stinging and Dwarf nettle root extracts** help support prostate cells against excess estrogen levels.^{15,16}
- **Saw Palmetto CO2 extract** helps inhibit dihydrotestosterone (DHT) activity in the prostate, helps support normal urinary flow, and helps regulate inflammatory reactions in the prostate.¹⁷⁻²⁰
- **Pygeum** (*Pygeum africanum*) extract helps suppress prostaglandin production in the prostate and supports healthy urination patterns.^{21,22}
- **Pumpkin seed oil**, from select pumpkins, enhances the composition of free fatty acids and augments saw palmetto's benefits.²³⁻²⁵
- **Beta-sitosterol** enhances the protective effects of other botanical extracts and helps improve quality of life.²⁶⁻²⁸
- **Graminex® Flower Pollen Extract™**, has been shown to help relax the smooth muscles of the urethra and help regulate inflammatory reactions.²⁹⁻³¹
- **Boron** has been shown to slow elevation of prostate-specific antigen (PSA).³²⁻³⁴
- **Lycopene**, supports efficient cellular communication, helps maintain healthy DNA, regulates hormonal metabolism, and promotes healthy prostate size and structure.³⁵⁻⁴¹

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Item # 01895

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

Saw Palmetto CO2 extract (fruit) [providing 272 mg total fatty acids]	320 mg
Graminex® Flower Pollen Extract™ (from rye)	252 mg
Stinging and Dwarf nettle extracts (root)	240 mg
Beta-Sitosterol (from pine)	180 mg
ThymoQ™ Phospholipid Complex [Phospholipids, thymoquinone (10 mg)]	170 mg
Pygeum extract (bark)	100 mg
Pumpkin seed oil [providing 170 mg total fatty acids]	200 mg
AprèsFlex® Indian frankincense (<i>Boswellia serrata</i>) extract (gum resin) [providing 14 mg AKBA1]	70 mg
Proprietary Enterolactone Precursors Blend [HMRLignan™ Norway spruce (<i>Picea abies</i>) (knot wood) and Flax (seed) lignan extracts]	20 mg
Lycopene [from natural tomato extract (fruit)]	10 mg
Boron (as Albion® bororganic glycine)	3 mg

¹ 3-O-acetyl-11-keto-β-boswellic acid

A bottle of 60 softgels of **Ultra Natural Prostate** retails for **\$38**. If a member buys four bottles, the price is reduced to **\$26.25** per bottle. If a member buys 12 bottles, the price is **\$24**.

Contains soybeans.

AprèsFlex® is a registered trademark of Laila Nutraceuticals exclusively licensed to PL Thomas- Laila Nutra LLC, U.S. Patent No. 8,551,496 and other patents pending. HMRLignan™ is a trademark used under sublicense from Linnea S.A. US Patents 6,319,524 and 6,669,968. Albion® is a registered trademark of Albion Laboratories, Inc.

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To order Ultra Natural Prostate, 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.

Comprehensive Pomegranate Protection!

FULL-SPECTRUM POMEGRANATE FORMULA

Few nutritional sources have gained as much scientific validation as **pomegranate**.¹

The vast majority of research has focused on extracts from the *fruit*. Only recently have scientists identified the synergistic action of compounds specific to other parts of the pomegranate—most notably its **seeds** and **flowers**.

The Next-Generation Pomegranate Formula

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

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

These little-known nutrients include: **punicanolic acid** that provides cellular support to help with inflammation,⁵ and **pomegranate**, to combat age-related metabolic changes.⁶

This superior formula supplies the **complete** nutritional profile of the pomegranate plant. Just one softgel of **Full-Spectrum Pomegranate**™ provides polyphenols equivalent to 12.3 ounces of pomegranate juice concentrate (or 30 pomegranates) *plus* a proprietary blend of **seed oil and flower extract**.

POMELLA® extract is covered under U.S. Patent 7,638,640 and POMELLA® is a registered trademark of Verdure Science, Inc.



Item # 01423

One softgel of Full-Spectrum Pomegranate™ contains:

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

Full-Spectrum Pomegranate™

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

**To order Full-Spectrum Pomegranate™,
call 1-800-544-4440 or
visit www.LifeExtension.com**

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



Item # 01596

Your Skin's Internal Moisturizer

Ceramides are essential for preserving healthy-looking skin.^{1,2} That's why they're included in so many anti-aging face creams.

Your body's production of **ceramides** declines with age.³ That's bad news, since ceramides make up **35-40%** of the binding matrix that maintains moisture balance and protects the skin's surface.⁴ It's therefore critical that ceramides lost to aging are replaced.

Restore Ceramides Naturally from Within!

The **ceramides** that young skin naturally produces to retain its supple appearance are identical to those present in **wheat!**

Wheat-derived oils have been used *topically* for centuries as a natural moisturizer. But you can't get enough ceramides from topically applied wheat oil to have a long-term impact on your skin's appearance. And they don't appear in sufficient concentration in your diet.

That's why **Life Extension**® brought together these skin-nourishing oils in a concentrated **oral formula** called **Skin Restoring Phytoceramides with Lipowheat**®.

Lipowheat® is a proprietary **ceramide blend** that offers *nutritional* support for aging skin to complement the topical products you may already be using.

The Moisturizing Pill the Japanese Have Enjoyed for a Decade!

Lipowheat® ceramides have been available to Japanese women as a functional food since 2000.⁵ The hydrating action of **Lipowheat**® ceramides have proven effective in clinical trials.

Aging Americans can now offset the visible impact of the gradual decline in their ability to produce enough ceramides by using **Skin Restoring Phytoceramides with Lipowheat**®.

One bottle containing 30 **350 mg** vegetarian liquid capsules of **Skin Restoring Phytoceramides with Lipowheat**® retails for \$25. If a member buys four bottles, the price is reduced to **\$17.25**.

Contains wheat.

Lipowheat® is a registered trademark of LAVIPHARM Group of Companies.

To order **Skin Restoring Phytoceramides with Lipowheat**®
call **1-800-544-4440** or visit **www.LifeExtension.com**

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WE ARE RECRUITING FOR STUDY PARTICIPANTS!

LifeExtension[®]
CLINICAL RESEARCH, INC.

ALZHEIMER'S DISEASE STUDY

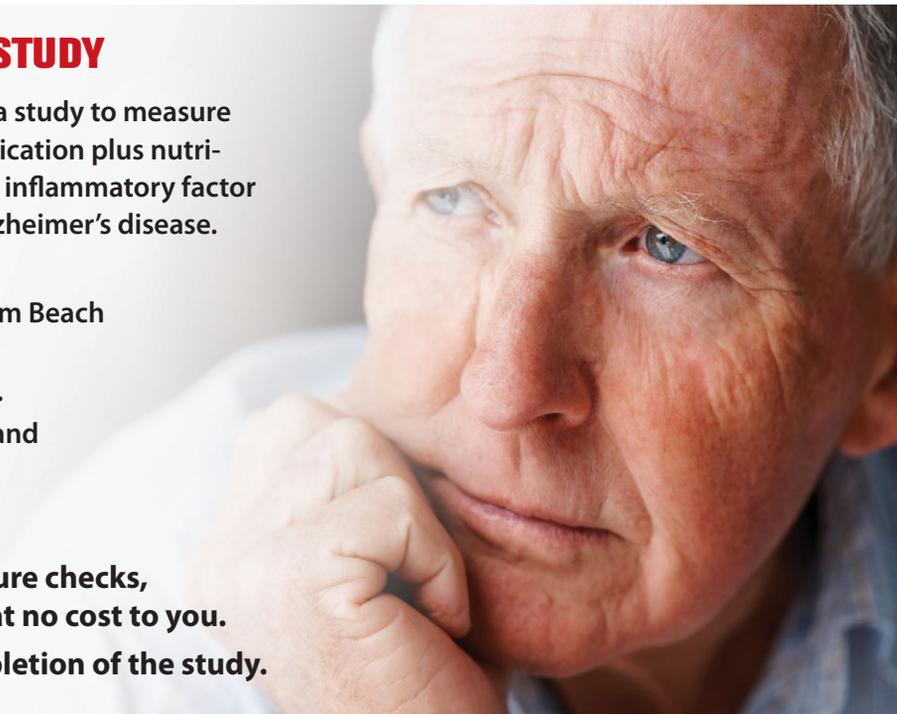
The Life Extension Foundation[®] is sponsoring a study to measure the effects of weekly injections of a study medication plus nutritional supplements that may help suppress an inflammatory factor implicated in the neuronal degeneration of Alzheimer's disease.

If you or someone you know:

- Lives in the Fort Lauderdale, Miami, or Palm Beach area of Florida.
- Has mild to moderate Alzheimer's disease.
- Please contact us for further information and to see if you qualify.

Qualified participants receive:

- Blood tests, evaluations, blood pressure checks, study medication, and supplements at no cost to you.
- Compensation up to \$500 upon completion of the study.



OVERWEIGHT AND MILDLY ELEVATED BLOOD SUGAR STUDY

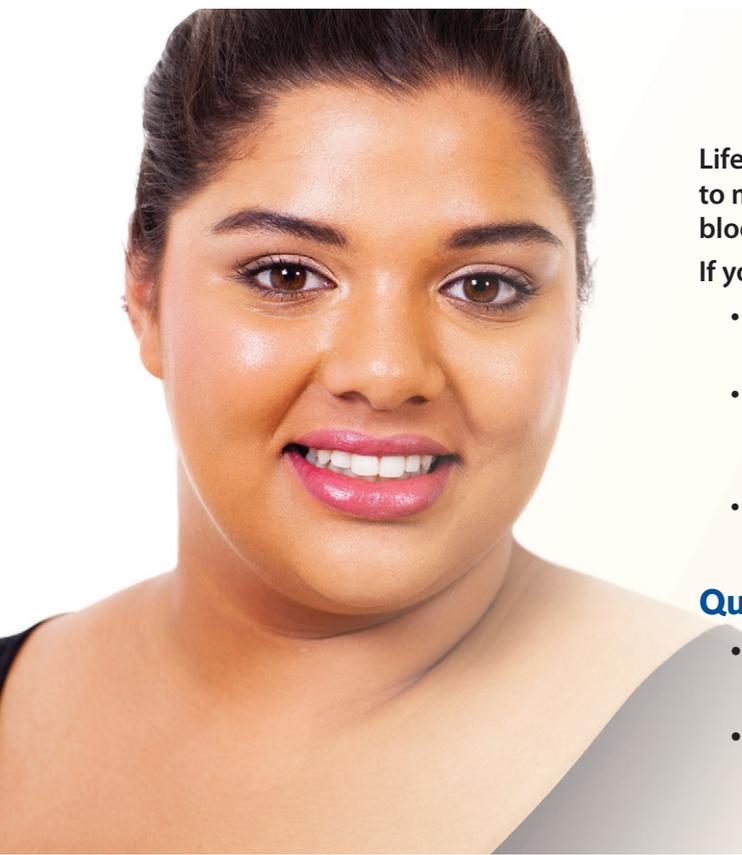
Life Extension Clinical Research, Inc. is conducting a trial to measure the effects of nutritional supplementation on blood sugar and blood vessel health.

If you or someone you know:

- Lives in the Fort Lauderdale, Miami, or Palm Beach area of Florida.
- Is overweight, 25-65 years of age, and has mildly elevated blood sugar with no previous diagnosis of diabetes.
- Please contact us for further information and to see if you qualify.

Qualified participants receive:

- Blood tests and blood vessel health evaluations at no cost to you during the trial
- Compensation of \$200, a Life Extension \$100 gift card and up to \$50 for travel expenses upon successful completion of the trial.



REGISTER OR CONTACT US FOR MORE INFORMATION

Phone: (866) 517-4536 • Website: www.lef.org/ClinicalResearch

E-mail: LEClinicalResearch@LifeExtension.com

BY ROBERT GOLDFADEN AND
GARY GOLDFADEN, MD

Target WRINKLE Formation With Novel Peptides

We often think of wrinkles as an inevitable part of aging. But it doesn't have to be that way.

Fine lines and wrinkles occur when certain processes in the body break down, leading to DNA damage and the destruction of skin firmness and elasticity.

Scientists have discovered three powerful **peptides** that target the underlying causes of wrinkle formation—and help restore your body's ability to fight wrinkles from the inside out.

This leads to visible results, with human studies demonstrating a **20%** decrease in fine lines and a **28%** decrease in deep wrinkles *within minutes*—results that continued to improve over the next few months.¹

In this article, you will learn how a trio of peptides works to diminish the appearance of fine lines and unsightly wrinkles to reveal smoother, firmer, more youthful-looking facial skin. >





Enhanced DNA Repair Capacity

DNA damage to your skin is inevitable due to both environmental factors and internal aging. The difference between younger and older skin is that younger skin has support systems in place that help repair the damage and prevent premature skin aging.

Younger, healthy skin responds to damaged DNA by stimulating an important element called **transcriptional factor forkhead-box protein O3a** (FOXO3a). This turns on genes that support cell repair, renewal, and longevity.^{2,3} This process is critical for preserving DNA integrity and maintaining accurate replication of genetic material.

As you age, the decline in **FOXO3a** activity reduces the capacity of cells to repair themselves and contributes to the accumulation of DNA damage.⁴ The result is a domino effect that *decreases* gene expression favoring skin functionality and quality, while simultaneously *increasing* gene expression that damages the skin's key components. This gradual process degrades both the skin's **collagen** and **elastin**,⁵ which ultimately results in the creation of unwanted fine lines and wrinkles.

A newly developed compound called **acetyl hexapeptide-51** has been shown to mimic the actions associated with FOXO3a activity—helping to protect the skin from the consequences of DNA damage.³

In the laboratory, human skin cells treated with this ingredient switched on the same beneficial genes as FOXO3a and produced a **2.7 fold** increase in DNA repair pathway activity compared to a control.³

Positive results were seen in humans as well. When researchers topically applied acetyl hexapeptide-51 to the skin of 21 human volunteers after exposure to ultraviolet light, they observed **13.7%** less DNA damage than the controls.³ And this effect was evident in just **6 hours!**

Together, these studies suggest that **acetyl hexapeptide-51** could combat wrinkle formation by enhancing DNA repair capacity and reducing the accumulation of DNA damage.

Improved Skin Cohesion And Firmness

Collagen and elastin are vital components of the dermal extracellular matrix that maintains skin cohesion, firmness, and elasticity.⁶ A **balance** exists between the breakdown and replenishment of skin structural proteins such as collagen and elastin. However, the natural decrease in the production of collagen and elastin that occurs during aging—along with chronic exposure to external factors like sunlight—creates an **imbalance** that promotes premature skin aging.⁷⁻⁹



One of the main reasons elastin production decreases as we age is due to diminishing levels of the enzymes **lysyl oxidase-like 1 (LOXL1)** and **glycoprotein fibulin-5 (FBLN5)**.^{10,11} This decrease hinders the formation of elastin, which will gradually lead to disorganization in the ultrastructure of the extracellular matrix that maintains skin's firmness and elasticity.¹²

The peptide **acetyl tetrapeptide-2** has been discovered to increase the prevalence of **LOXL1** by **1.7 fold** and **FBLN5** by **2.3 fold** when exposed to human skin fibroblasts.¹³ Additional in-vitro tests showed a significant improvement in elastin synthesis by **21.7%**.¹³

This suggests that when we combine the topical use of acetyl tetrapeptide-2—along with the effort to minimize external and environmental factors—we can help restore the normal balance between the formation and breakdown of elastin.

In a human study, scientists recruited 19 volunteers aged 50-60 with saggy facial skin to determine how effective acetyl tetrapeptide-2 would be at improving the firmness of the skin.¹³ Participants applied the ingredient to their face twice daily for 55 days. The results revealed a **9.5%** reduction in indentation and a **23.2%** decrease in area parameters.¹³ In other words, participants finished the study with visibly firmer and tighter facial skin than before treatment.

Scientists also discovered acetyl tetrapeptide-2's additional benefits: It increases the formation of type I collagen by **47%**, and it enhances the production of cellular adhesion molecules that coordinate the binding of cells to the dermal extracellular matrix—all of which reinforces skin cohesion and firmness.¹³

Potent Anti-Wrinkle Activity In Humans

Since collagen is the most abundant structural protein in the dermal extracellular matrix, the loss of collagen leads to changes in the matrix that accelerate aging and formation of wrinkles.⁷ One way to help prevent wrinkles is by preserving and renewing collagen.

The ingredient **palmitoyl tripeptide-5** has been shown to stimulate collagen renewal through activation of **latent tissue growth factor- β (TGF- β)**.¹

In one study 37 women between 33 and 45 years old applied a cream containing palmitoyl tripeptide-5 twice daily to their crow's feet and to the wrinkles around their mouth for three months.¹ Scientists measured both fine and deep wrinkles in both of these regions at baseline, within 15 minutes, month one, and month three after application.



What You Need To Know

Rejuvenate Aging Skin

- The dermal extracellular matrix (ECM) surrounds cells and contains the vital proteins elastin and collagen, which maintain skin cohesion, firmness, and elasticity.
- Three powerful peptides work to diminish the appearance of fine lines and unsightly wrinkles to reveal smoother, firmer, youthful-looking facial skin by targeting the underlying causes of wrinkle formation.
- **Acetyl hexapeptide-51** produces a **2.7 fold** increase in DNA repair pathways when exposed to human skin cells, resulting in **13.7%** less DNA damage in controlled trials.
- **Acetyl tetrapeptide-2** increases skin firmness in human volunteers with saggy skin.
- **Palmitoyl tripeptide-5** regenerates collagen, and in a controlled human study significantly improved crow's feet and wrinkles around the mouth within minutes!

Researchers observed that *within minutes*, treatment of wrinkles around the eyes with palmitoyl tripeptide-5 decreased fine lines by an average of **20%** and deep wrinkles by an average of **28%**.¹ After three months, these parameters further improved to **38%** and **50%**, thereby demonstrating the **immediate** and **long-lasting** anti-wrinkle effects of palmitoyl tripeptide-5.¹

Immediate results were also noted for wrinkles around the mouth, and after three months participants experienced a **31%** reduction in deep wrinkles and a **53%** decrease in fine wrinkles.¹

Scientists concluded that a topical treatment containing palmitoyl tripeptide-5 **“produced significant improvements in facial wrinkles and provides a well-tolerated, no-downtime alternative to invasive procedures.”**¹

Summary

Fine lines and wrinkles do not have to be an inevitable part of aging. A trio of unique peptides, including *acetyl hexapeptide-51*, *acetyl-tetrapeptide-2*, and *palmitoyl tripeptide-5*, serves to naturally reduce the appearance of fine lines and wrinkles by enhancing DNA repair capacity and regenerating vital dermal extracellular matrix components.^{1,3,13} This restores skin cohesion, elasticity, and firmness—all of which work to diminish the appearance of wrinkles and preserve the skin’s youthful appearance. ●

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

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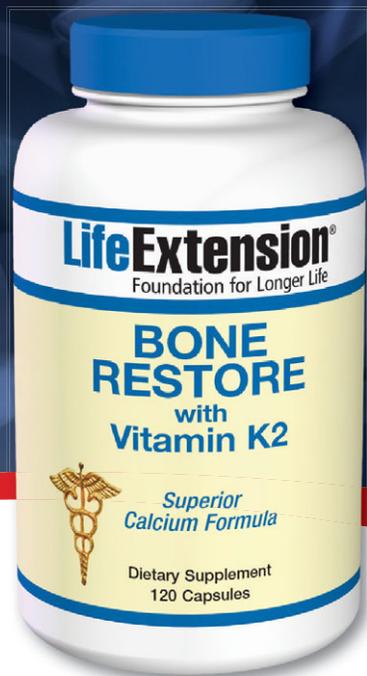
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BONE RESTORE

WITH VITAMIN K2



Bone Restore combines critical **bone boosting** nutrients into one **superior formula**.

Bone Restore includes highly **absorbable** forms of **calcium** and **boron**, along with **vitamin D3**, **magnesium**, **zinc**, **manganese**, and **silicon**. **Bone Restore** is available with or without **vitamin K2** (MK-7).

Bone Restore now contains **300 mg** of **magnesium**.

The retail price for 120 capsules of **Bone Restore** is \$24. If a member buys four bottles, the price is reduced to **\$16.50** per bottle. (Item# 01727)

The same **Bone Restore** formula without vitamin K2 (MK-7) is available as well. The retail price for 120 capsules is \$22. If a member buys four bottles, the price is reduced to **\$14.25** per bottle. (Item# 01726)

Note: Those who take **Super Booster** or **Super K** usually do not need additional vitamin K2. They should order **Bone Restore** without vitamin K2. Those taking the anti-coagulant drug **Coumadin**[®] (warfarin) should use **BONE RESTORE** without vitamin K2.

Just four capsules of Bone Restore provide:

Highly Absorbable Calcium (as DimaCal [®] dicalcium malate, TRAACS [®] calcium bisglycinate chelate, calcium fructoborate)	700 mg
Vitamin D3	1,000 IU
Vitamin K2 (as menaquinone-7)	200 mcg
Magnesium (as magnesium oxide)	300 mg
Boron (calcium fructoborate as patented FruiteX B [®] OsteoBoron [®])	3 mg
Zinc (as zinc amino acid chelate)	2 mg
Manganese (as amino acid chelate)	1 mg
Silicon (from horsetail extract)	5 mg

FruiteX B[®] and OsteoBoron[®] are registered trademarks of VDF Futureceuticals, Inc. U.S. patent #5,962,049.
DimaCal[®] and TRAACS[®] are registered trademarks of Albion Laboratories, Inc. Malate is covered by U.S. Patent 6,706,904 and patents pending.

To order Bone Restore, 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.

NEW

EFFERVESCENT VITAMIN C- MAGNESIUM CRYSTALS

Effervescent Vitamin C-Magnesium Crystals contains no harsh, synthetic chemicals.^{12,13}

Effervescent Vitamin C-Magnesium Crystals is safe for up to three times per week, since it contains only nutrients that can provide other benefits.

Effervescent Vitamin C-Magnesium Crystals is not a fiber—so it never creates more fecal bulk than you can easily evacuate.^{14,15}

Occasional constipation is one of the most frequent gastrointestinal complaints in the United States, particularly among women and the elderly.¹ To address this issue, Life Extension® offers a dose-adjustable nutritional solution—**Effervescent Vitamin C-Magnesium Crystals**—to provide immediate **relief from occasional constipation**.

THE PROBLEM

A series of rhythmic muscle contractions move food through the digestive tract.² But highly processed foods and a lack of quality nutrition can occasionally result in normal but temporarily ineffective movement of waste through the colon.

NUTRITIONAL SUPPORT

Vitamin C is an antioxidant that scavenges free radicals in the body and protects tissues from oxidative stress.^{3,5} Vitamin C is a vital cofactor to the formation of collagen, the connective tissue that supports arterial walls, skin, bones, and teeth.^{4,5}

Magnesium is a cofactor in hundreds of enzymatic processes within cells, helps maintain healthy blood pressure levels already within normal range, improves the metabolic profile, beneficially impacts insulin resistance and inflammation. Research shows many Americans do *not* obtain adequate magnesium in their diets.⁶⁻¹¹

Effervescent Vitamin C-Magnesium Crystals has been developed to help provide relief from occasional constipation.

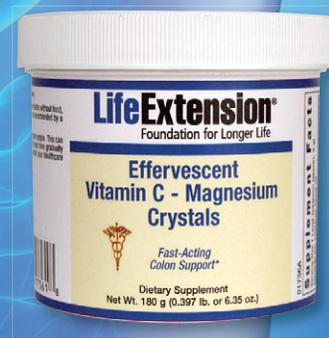
Effervescent Vitamin C-Magnesium Crystals can be used in varying doses depending on individual need. The suggested starting dose should be one (1) level teaspoon of **Effervescent Vitamin C-Magnesium Crystals**, taken on an **empty stomach**, mixed in 8 ounces of water. Follow immediately with drinking 8 additional ounces of water.

Each level teaspoon (approx 6 grams) provides:

- **4,500 milligrams** of vitamin C (as ascorbic acid)
- **4 milligrams** of vitamin B6 (as pyridoxine hydrochloride) and
- **250 milligrams** of magnesium (as magnesium carbonate)

Some people will need to take one teaspoon of **Effervescent Vitamin C-Magnesium Crystals** on an empty stomach up to three times a week. Always follow by drinking an additional 8 ounces of water.

A bottle of 180 grams of Life Extension® **Effervescent Vitamin C-Magnesium Crystals** retails for \$20. If a member buys four bottles, the price is reduced to only **\$13.50 per bottle**.



Item #01736

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To order Life Extension® Effervescent Vitamin C-Magnesium Crystals,
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.

CLINICALLY PROVEN
INGREDIENTS TO HELP

Reduce Appearance of Wrinkles and Support Aging Skin

Scientists have developed a new weapon in the fight against aging skin. A combination of **three** powerful peptides works at the cellular level to breathe new life into aging and damaged skin.

By mimicking the action of the body's own natural regenerative activities, the ingredients in *advanced triple peptide serum* have been shown in clinical studies to defend against the visible signs of skin aging.

Peptides are the natural choice for restoring damaged, aging skin. These nontoxic, anti-aging substances:

- Trigger increased collagen production¹
- Enhance antioxidant defense²
- Improve cellular repair³

Research has now pinpointed three peptides with particularly potent effects. The result is a softer, smoother, more radiant *youthful-looking* skin.

ACETYL HEXAPEPTIDE-51

This novel peptide combats wrinkle formation by supporting the skin's natural DNA repair capacity.

In a clinical study, topical application of acetyl hexapeptide-51 provided **13.7%** more support for DNA integrity than controls, and this effect was observed within just 6 hours.⁴

ACETYL TETRAPEPTIDE-2

The effective peptide known as acetyl tetrapeptide-2 has been shown to rejuvenate facial skin, improve skin tone and texture—and help defend against the visible signs of skin aging.

In a clinical study, volunteers applied acetyl tetrapeptide-2 to their faces for 55 days. In this time, it was demonstrated that the visible appearance of sagging facial skin was decreased by **9.5%** and the apparent area of visible sagging was decreased by **23.2%**.⁵

PALMITOYL TRIPEPTIDE-5

Researchers demonstrated this peptide decreased the appearance of fine wrinkles by **20%** and coarse wrinkles by **28%**—and these results were observed within 15 minutes!⁶

Daily application of this *unique* formulation of three nourishing anti-aging peptides has been clearly established in human studies to substantially *reverse* the appearance of aging and damaged skin.

A one-ounce bottle of Cosmesis Advanced Peptide Serum retails for \$65. If a member buys two bottles, the price is reduced to **\$42.75** per bottle.

To order Cosmesis Advanced Peptide Serum,
call 1-800-544-4440 or visit www.LifeExtension.com



Item # 80152

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A line of skin care products developed by
renowned dermatologist Gary Goldfaden, MD



COSMESIS
SKIN CARE

Developed Exclusively for Life Extension®

The Supplement

How To Build Your Personalized Nutritional Regimen

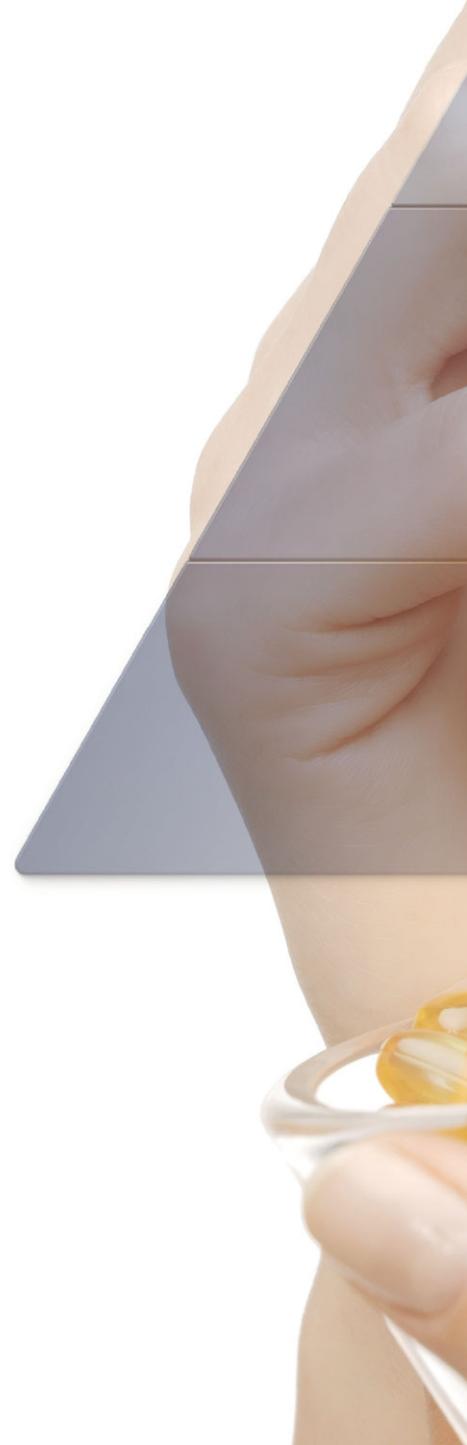
BY MICHAEL A. SMITH, MD

By far the most common questions I am asked have to do with what nutritional supplements to take and, equally important, what not to take. After all, there are a staggering amount of choices out there. Anyone who has walked into the supplement section of a natural foods store or conducted a quick online search on a vitamin supersite can attest to that. Making things even more complicated, there are new products coming to market almost daily. It's easy to get lost with all the options to consider.

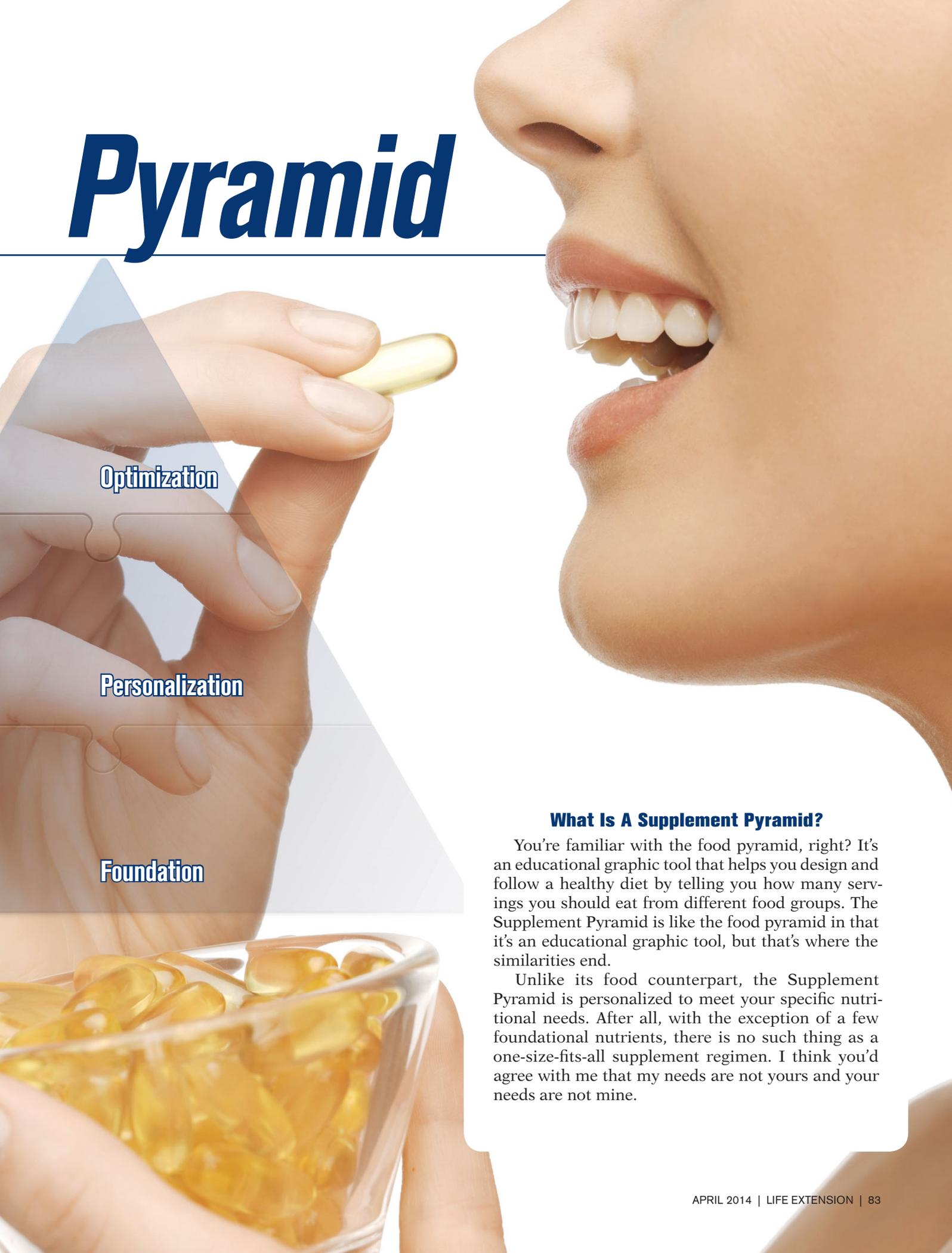
So how do you know if you're taking the right supplements? Should you add the latest Amazonian herb you just read about to your supplement regimen? What if you want to cut back a little to save money—which supplements should you keep and which ones should you pitch?

These are the exact types of questions your Supplement Pyramid can answer for you.

Excerpted with permission from *The Supplement Pyramid* by Michael Smith, MD.
Published by Basic Health Publications, Inc., 2014.



Pyramid

A close-up profile of a woman's face, smiling broadly, showing her teeth. She is holding a single yellow capsule between her fingers. In the foreground, a glass bowl is filled with many yellow capsules. The background is a light blue and white gradient with a faint pyramid shape.

Optimization

Personalization

Foundation

What Is A Supplement Pyramid?

You're familiar with the food pyramid, right? It's an educational graphic tool that helps you design and follow a healthy diet by telling you how many servings you should eat from different food groups. The Supplement Pyramid is like the food pyramid in that it's an educational graphic tool, but that's where the similarities end.

Unlike its food counterpart, the Supplement Pyramid is personalized to meet your specific nutritional needs. After all, with the exception of a few foundational nutrients, there is no such thing as a one-size-fits-all supplement regimen. I think you'd agree with me that my needs are not yours and your needs are not mine.

Why a pyramid? First, because the pyramid structure is symbolic of stability. And second, because as you ascend up the levels of the pyramid, they shrink in size, representing their order of importance to your health. That means you're going to build your Supplement Pyramid from the bottom up, like a real pyramid.

The Three Levels

Your Supplement Pyramid will have three levels. The bottom tier is the Foundation Level. It's made up of nutrients essential to life. Because of their vital importance to human biology, we all need to take the same foundational supplements. The middle tier is the Personalization Level. This is the level that's all yours. It's comprised of nutrients specific to your personal medical history and health needs. The top tier is the Optimization Level. This is where all of the "extra" supplements come in that really take your health to the next or optimal level.

1. The Foundation Level

The Egyptian pyramids have lasted for over 4,000 years because of one thing—a solid foundation. Your Supplement Pyramid needs a sturdy base too. The supplements comprising this level support basic life processes, such as cellular energy production, growth, repair, and regeneration.

No matter who you are or what you're going through, you need the same foundational supplements as everybody else. Think of them as the essential nutrients for living well as a human. They include five building blocks:

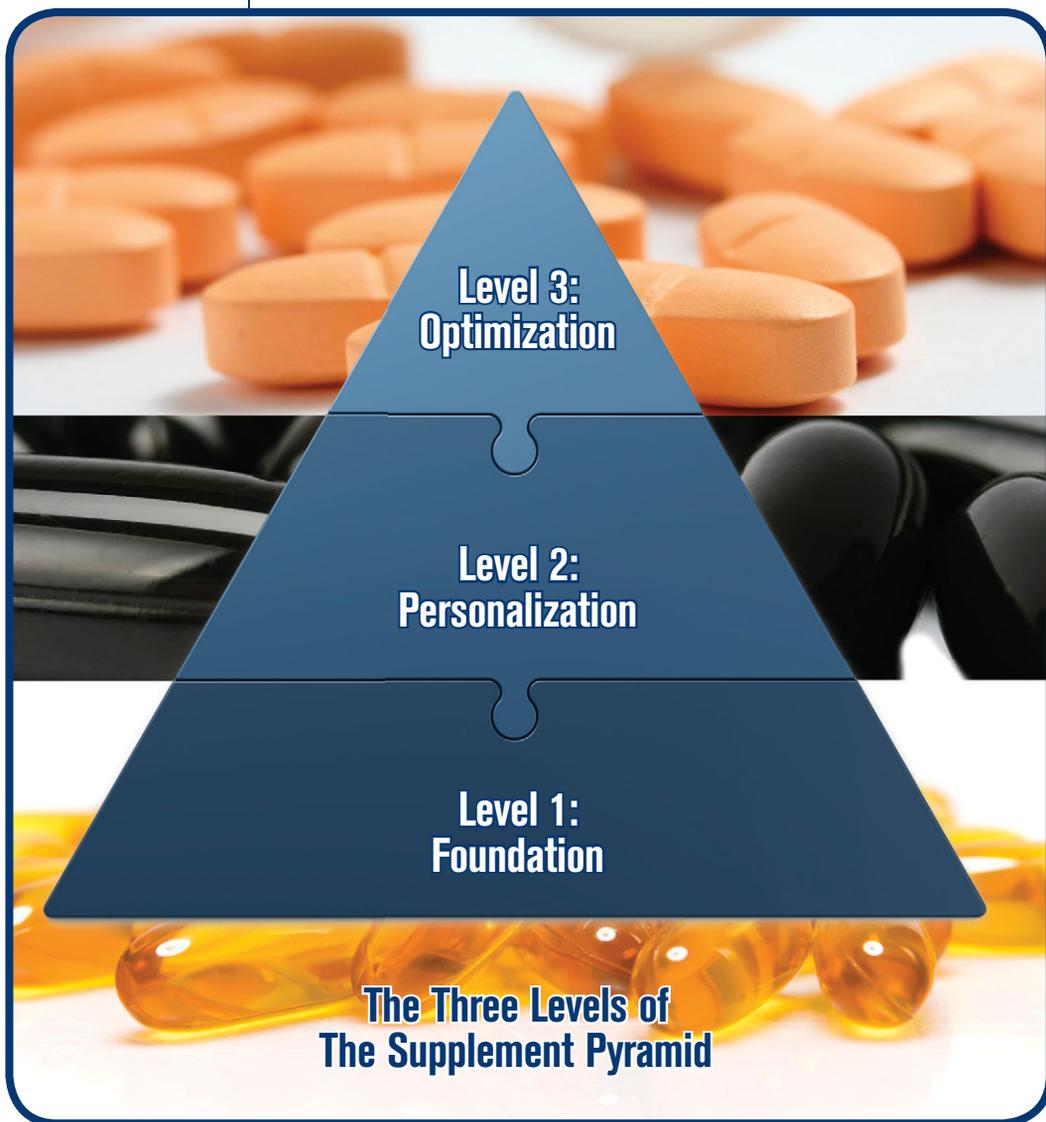
1. An ideally dosed multivitamin/mineral
2. Omega-3 fatty acids
3. Coenzyme Q10
4. Probiotics
5. Curcumin

2. The Personalization Level

The middle part of the Supplement Pyramid is all about you. It's about finding the right supplements to help you prevent the diseases most likely to affect you personally. If you're itching to find out which supplements will help you train for a marathon or reverse your cells' biological clocks to prevent aging, we'll get to that. Those types of personal health and wellness goals belong in the Optimization Level. This level is really designed to prevent disease.

You'll complete three basic procedures in order to identify the supplements in your Personalization Level:

1. Personal and family medical inventories
2. Medical quizzes
3. Laboratory testing



Personal And Family Medical Inventories

We all face different health challenges throughout our lives. Some of these you'll have dealt with directly. You may have a history of heart disease, for example, or perhaps just some of the warning signs, like high blood pressure, elevated triglycerides, or insulin resistance. Other health challenges may not have touched you yet, but have affected members of your family, putting you at greater risk. A father, an aunt, or a grandparent may have had cancer or Alzheimer's disease, for example.

Creating a personal and family medical inventory will help you identify past, ongoing, and potential problem spots for you to protect against. And that's the beauty of the Personalization Level. This is not a one-size-fits-all solution. It's tailored to your own specific medical needs.

Accounting for your personal and family health history is the first step in developing it.

Your detailed medical inventory will be comprised of several questions pertaining to major organ systems, including:

- The cardiovascular system: heart and blood vessels.
- The nervous system: brain and nerves.
- The muscular system: muscles.
- The digestive system: stomach, liver, and intestines.
- The endocrine system: pancreas, glands, and hormones.
- The immune system: thymus, spleen, and lymph nodes.
- The skeletal system: bones and joints.
- The respiratory system: lungs, sinuses, and bronchial passages.
- The urinary system: kidneys and bladder.

I'll also ask you questions to see how you're doing in the following areas:

- Diabetes/metabolism
- Eyes/ears/nose/throat
- Mental health/mood

You'll note the obvious diseases, as well as the strange symptoms that haven't been diagnosed yet. For example, let's say your older sister suffers from chronic tremors of her hands, but her doctors don't



know why. And your mom remembers a great aunt that had similar problems. This information would be included in your inventory as a potential nerve disorder and would require appropriate supplementation.

Once you've identified past problems that you don't want to come back, current problems to address, and potential problems in the future, you can take appropriate steps to protect yourself.

Medical Quizzes

As you'll read later in this article, I created a free website called MySupplementPyramid.com to enable consumers to identify which nutrients are most important to them as individuals. At this site, you'll be able to enter your personal and family medical inventory, and then take a series of medical quizzes to assess how you're doing in different areas such as heart health, cognitive function, immune strength, and more. These quizzes aren't the kind of fluff you'd find in a mainstream health magazine. Each one is based on real clinical risk assessments that doctors use for major organ systems.

The answers you give on each quiz will be used to calculate a risk score for that particular body function. This deeper level of detail will help identify potential problems that weren't picked up in your personal and family medical inventory. Based on your risk scores in different categories, I'll make very specific supplement suggestions to complete your Personalization Level.

Laboratory Testing

The final step in developing your Personalization Level is to learn about the array of laboratory tests that can further help you personalize your Supplement Pyramid. I think this is the most exciting part of the Personalization Level because lab testing can tell you all kinds of things about what's going on inside your body that would be hard to figure out otherwise.

I'll recommend tests that will help you identify:

- Which nutrients you may be lacking.
- Whether you're part of the **70%** of Americans deficient in omega-3 fatty acids.
- The level of toxic heavy metals in your system.
- How much oxidative stress your body is under.
- If your levels of various hormone and neurotransmitters are normal.
- Whether food allergies are making you sick.

I'll even provide a quick cognitive test that you can take right at home to determine if you're showing any signs of age-related cognitive decline.

3. The Optimization Level

The top part of your Supplement Pyramid is the Optimization Level. Supplements in this level do exactly what the name implies. They don't necessarily meet your medical needs—that's what the personalization level is for. These supplements simply "optimize" your regimen.

This level is where you'll find supplements that help you live a longer, healthier life. You could also think of them as anti-aging supplements. These might include nutrients that have been shown to induce beneficial effects on *gene expression*, which ultimately might be the solution to eradicating age-related disease.

Supplements at this level may not be essential to your overall health. But that's not to say they aren't important. They could help extend your life span or make your later years healthier. However, when it's all said and done, you can do without them.

That's why the Supplement Pyramid is structured the way it is—so you always meet your foundational survival needs first, your disease prevention needs second, and your anti-aging goals last.

I know that not everyone is always flush with cash. So if you need to cut back on expenses, then the supplements in the Optimization Level should be the first to go. That way, you'll still be providing your body with the core, foundational nutrients for survival and the custom-tailored supplements that will help you prevent disease.



Specific Disease Pyramids

Most of the Supplement Pyramid book is geared toward making sure you're meeting your nutritional needs, helping you prevent disease, and assisting you in aging as well as possible. But what if you or someone you love already has a disease?

I've outlined some of the most common chronic diseases and the supplements that can help slow their progression—and even improve their symptoms and outcome. The disease supplement pyramids that I have put together for you include:

- Bowel and Digestive Disorders
- Brain Diseases like Alzheimer's and Parkinson's Disease
- Cancers including Prostate, Breast, and Colon
- Chronic Fatigue and Chronic Pain Syndromes
- Diabetes and Metabolic Disorders
- Lung Disorders like COPD and Asthma
- Heart Diseases including Atherosclerosis and Heart Failure
- Insomnia and Mood Disorders
- Bone and Joint Disorders
- Overweight and Obesity

Choosing High Quality Products

Having a personalized supplement pyramid is empowering. But you also need high quality products to go along with it.

It's a sad but true fact that quality among nutritional supplements varies widely. Therefore, it's a good idea to ask yourself the following questions before making a purchase:

- How do I know that the ingredients inside my supplements match what's advertised in the label?
- How can I be sure that my supplements contain the full amount they say they do?
- How do I know that my supplements aren't contaminated with pesticides, heavy metals, or microbes?
- How can I tell if my supplements are providing therapeutic dosages of key ingredients versus just a sprinkling?
- How can I keep myself from being hoodwinked by supplement charlatans who care only about lining their pockets at my expense?

The dilemma is real, but the solution is simple: Stick with a company that has an established track record of selling high-quality products. Established companies use only pure, potent raw materials. The Supplement Pyramid will teach how to evaluate a supplement manufacturer and distributor, with simple easy-to-follow steps.



Build your personalized supplement pyramid online at www.MySupplementPyramid.com.

You can complete your inventories and take all of the quizzes by creating a FREE online account. All of your supplement suggestions, quizzes, and inventories are stored digitally in place for easy access.

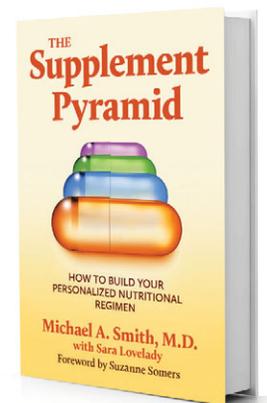
Building Health From The Ground Up

Hopefully you're now well on your way to creating a personalized supplement pyramid—one that is uniquely tailored to your specific health needs and goals. First and foremost, build upon the foundational supplements, starting with a high-quality, ideally dosed multivitamin.

Working up, add omega-3 fish oils, ubiquinol CoQ10, curcumin, and probiotics. These five supplements are foundational to your health as they help every cell and tissue throughout your body.

Once the foundation is in place, continue to work up the pyramid by completing the inventories and then the quizzes. As you see fit, add the suggested products into your pyramid in order of importance, moving from the bottom up. Lastly, consider the suggested products at the optimization level for counteracting the leading theories of aging.

Remember, your pyramid is dynamic and will change as you change. I suggest retaking the quizzes a couple times a year and make the appropriate changes to your pyramid as your quiz scores change. ●



Michael A. Smith, MD, is senior health scientist for Life Extension. He is the author of the just released book, *The Supplement Pyramid – How to Build Your Personalized Nutritional Regimen*. He is also host of Healthy Talk, a weekly health talk show on www.RadioMD.com.

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

White Peony Root Extract

FOR IMMUNE SYSTEM BALANCE

Healthy aging requires a dynamic immune system.

A youthful body is dependent on balanced immune-cell activity to maintain effective, responsive, and **modulated** immunity.¹

Extracts from the **white peony root** have been used in China for immune balance for more than 1,200 years.² Modern science now recognizes the immune importance of a bioactive peony extract component called **paeoniflorin**.³⁻⁵

Peony Immune White Peony Root Extract is a standardized extract of active **white peony** compounds that have been shown to help maintain the balanced responsiveness, sensitivity, and strength of a **properly-modulated** immune response.⁶⁻¹⁰

Through a host of subtle mechanisms, **Peony Immune White Peony Root Extract** promotes **immune homeostasis**—optimal immune health—by limiting production of inflammatory molecules and naturally balancing inflammation-suppressing cells and pro-inflammatory cells.³⁻⁵

A host of human clinical trials have demonstrated that the compounds in **Peony Immune White Peony Root Extract** promote a healthy and balanced inflammatory response.⁶⁻¹⁰

The suggested twice-daily dosage of one vegetarian capsule of **Peony Immune White Peony Root Extract** provides:

White peony extract (root)	1,200 mg
[providing 504 mg paeoniflorin]	

A bottle of 60 vegetarian capsules of **Peony Immune White Peony Root Extract** retails for \$36. If a member buys four bottles, the price is reduced to **\$24** per bottle.

To order Peony Immune White Peony Root Extract, call 1-800-544-4440 or visit www.LifeExtension.com



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

The Supplement Pyramid

This is the Step-By-Step Guidebook You've Been Waiting For.

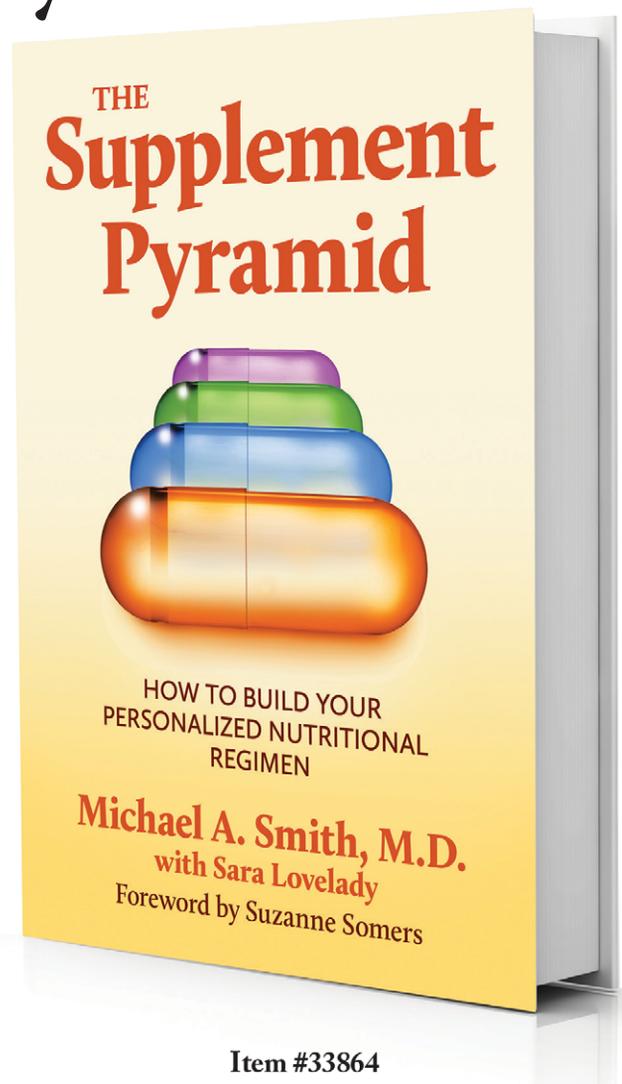
You'll find no other book on the market quite like it. In *The Supplement Pyramid*, Dr. Michael A. Smith, Senior Health Scientist for Life Extension®, provides you with an easy-to-understand, illustrated approach to tailoring a personalized nutritional regimen that's just right for *your* needs.

Dr. Mike explains **why even the healthiest diets fall short in terms of supplying the optimal amount of nutrients** we need not just to survive, but also to thrive. And with such a staggering amount of nutritional supplement choices available, it's hard to know where to start. *The Supplement Pyramid* provides you with the road map ... so you can achieve the best possible results.

Learn How to Build Your Own Personalized Nutritional Regimen.

The key to the "Pyramid" is its three-tiered plan. The base features the *essential* nutrients everyone needs to support basic life processes at the cellular level. The next tier offers a series of detailed medical quizzes designed to help you identify your *individual* needs with a focus on disease prevention. And the top of the Pyramid is all about those nutritional supplements that can help you *extend your life* and make your later years healthier.

Written in easy-to-understand language, *The Supplement Pyramid* is an informative and enjoyable "how-to" book that answers all your questions about building a personalized nutritional regimen. Order it for your library today.



Item #33864

Retail \$24.95

Member \$18.71

"I've wanted a book like this for a long time. A reference journal. A book to refer to over and over."

Suzanne Somers



Order Today at lef.org/supplement-pyramid

or

Call toll free 1-855-867-9358

Mention Code: SPB425A

For more information, visit www.mysupplementpyramid.com



A SUPERIOR WHEY PROTEIN

From Grass-Fed, Free Range Cows not treated with Growth Hormone (rBST)

As people age, they become more susceptible to muscle deterioration and a declining immune system.^{1,2} Fortunately, **whey protein** can have a positive impact on muscle construction and immunity due to its *branched-chain amino acid profile* (BCAAs) and naturally occurring *lactoferrin* and *immunoglobins*.^{3-5*}

Unlike many commercial brands on the market, **New Zealand Whey Protein Concentrate** is uniquely derived from **grass-fed, free range cows** living healthy lives in New Zealand and not treated with Growth Hormone (rBST).

Life Extension's New Zealand Whey Protein Concentrate offers the following:

- **Non-GMO Whey Protein Concentrate!**
- **Naturally high levels of essential branched-chain amino acids!**
- **High-quality muscle building protein!**
- **Easily mixes into water or milk!**
- **Great Taste!** – Available in both **natural chocolate** and **natural vanilla** flavors.

The retail price for an 18.34 ounce container of **New Zealand Vanilla Flavored Whey Protein Concentrate (Item # 01770)** or for a 23.28 ounce container of **New Zealand Chocolate Flavored Whey Protein Concentrate (Item # 01771)** is \$30. If a member purchases four bottles, the price is reduced to **\$19.95** per bottle. Contains milk.

To order New Zealand Whey Protein Concentrate, call 1-800-544-4440 or visit www.LifeExtension.com

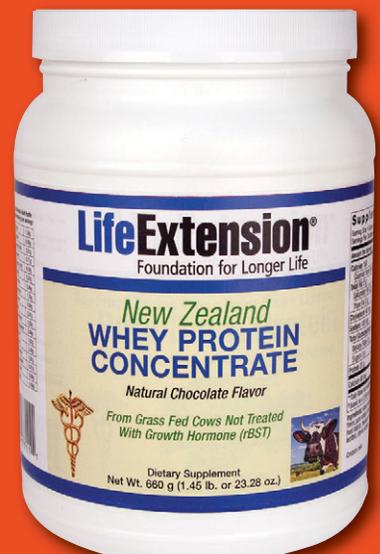
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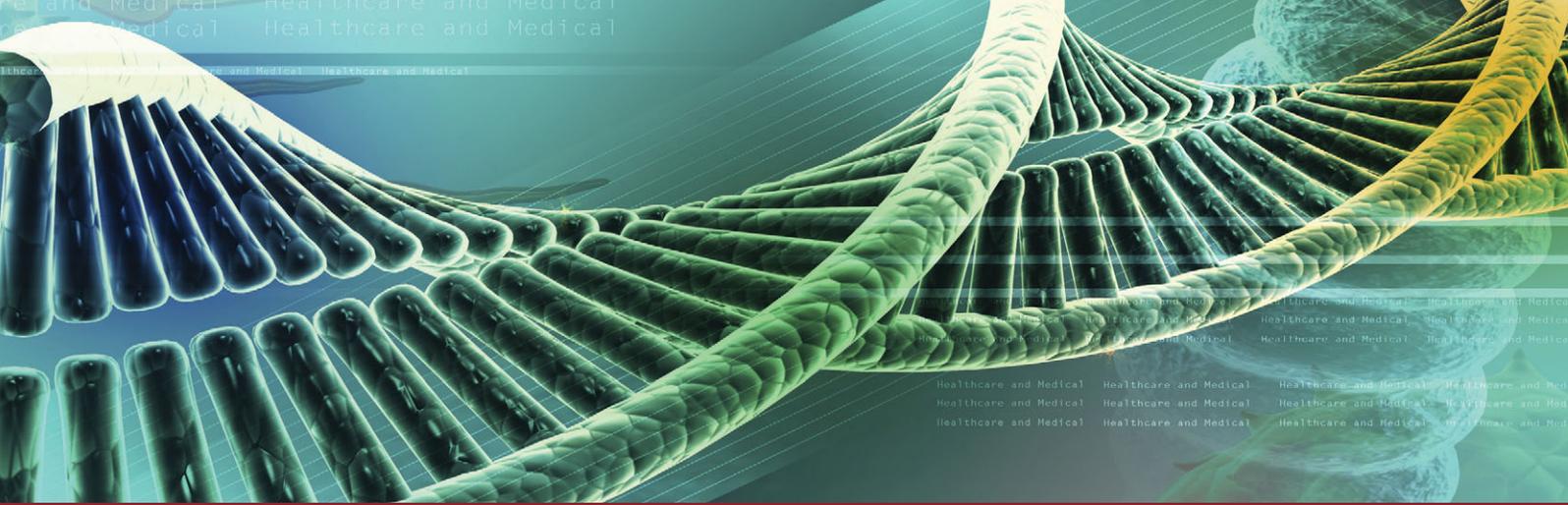
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Accessed June 12, 2013.



Item # 01770

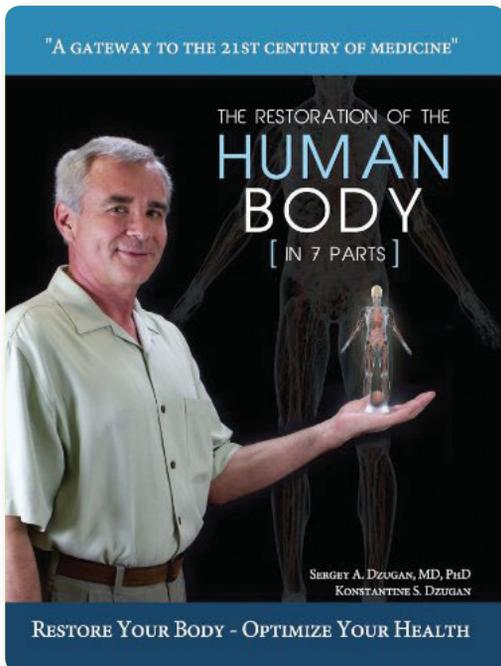


Item # 01771



AUTHOR INTERVIEW

Restoring The Human Body With Dr. Sergey Dzugan



Sergey A. Dzugan, MD, PhD, is co-founder and Chief Scientific Officer of the Dzugan Institute of Restorative Medicine. He is the author of 151 publications in medical journals, and these publications include surgical, oncological, academic, and anti-aging topics. He was the former President of Life Extension Scientific Information Inc., and his latest book, *The Restoration of the Human Body [In 7 Parts]*, teaches people how to restore their bodies and optimize their health. In this exclusive interview, Dr. Dzugan talks about his new book.

LE: In your opinion, what is the main failure of conventional medicine?

Dr. Dzugan: The problem with the current conventional medical model is that it does not focus on the actual root cause of many diseases and health conditions, but instead goes after the symptoms.

LE: And this relates directly to the current climate where doctors immediately prescribe drugs for almost every preventable disease.

Dzugan: Yes, the problem with such drugs, be they prescription or over the counter, is that they are not treating the base cause of the problem.

LE: What base cause of age-related illness are you referring to?

Dzugan: What is evident at the end of the day is that there is a lot of interplay between the types of disease, and many issues can bounce off of each other to create an ultimately more serious condition. In the midst of all these environmental diseases is where the bulk of our focus comes in. What we want to look at and discuss is disease that is caused by **acquired physiologic errors**. Physiologic simply refers to a normally functioning and healthy body, with physiology itself being the science of this.

LE: Such as?

Dzugan: What are diseases caused by acquired physiologic errors? This is going to come out of left field and include a good bunch. Issues such as heart disease, depression, arthritis, fibromyalgia, migraine, fatigue, atherosclerosis, and cancer can all fall under this category.

LE: How can restorative medicine, which is the focus of your book, prevent this from occurring?

Dzugan: An approach of restorative medicine focuses on addressing the breakdowns of optimal body function by optimizing the body's hormones and nutrients to optimal levels. While the body at all times tries to keep in homeostasis (equilibrium), things are going to break and it will happen. When the balance and ratios of hormones within the body break down, along with a lack of minerals and vitamins, then things will go south real fast.

LE: When mentioning hormones, you refer to pregnenolone as the grandparent of the other steroid hormones. Where did you come up with that?

Dzugan: While pregnenolone is not well known, its functions and impact on other hormone levels cannot be underestimated. It is a precursor of many other hormones, fights the effects of fatigue and stress, relieves arthritis pain, improves heart health, boosts the immune system, protects against coronary artery disease, improves mood and memory, and is vital for full brain function and protection against degenerative brain diseases.

LE: And you talk about the importance of DHEA as well, which you say decreases by **95%** in many people by age 75 from peak levels.

Dzugan: Right. Proper DHEA levels improve heart health, slow the onset or progression of diabetes, have beneficial impact on arthritis, and reverse declining cognitive function, while low levels are associated with increased risk of breast, ovarian, and other site cancers. Optimal levels are associated with maximum immunity and metabolic efficiency.

LE: How is DHEA linked to testosterone in terms of cardiac health?

Dzugan: Well, if we are looking at testosterone we should also take a look at DHEA as far as heart health goes. DHEA converts to testosterone in women, and provides a major source of estrogen post-menopause. This sort of action increases the appropriate protective levels in both genders.

LE: You mentioned 'maximum immunity' earlier and that is a theme that you bring up in your book several times, even in relation to someone's chances of recovering from the Ebola virus. You also touch upon how cortisol levels have a larger effect on people being able to maintain proper immunity because they impact so many body functions. What are some of the dangers of either high cortisol or low cortisol levels?

Dzugan: Symptoms of high cortisol include anxiety, depression, imbalances of glucose, suppressed thyroid function, and impaired mental performance. Low cortisol levels are associated with insomnia via adrenaline overload, fatigue, irritability, migraine headaches, and fibromyalgia, among others.



LE: On that note, you discuss an interesting idea about fibromyalgia in your book. Can you share it with our readers, please?

Dzugan: A hypothesis is floating about that fibromyalgia may be due to an irregular disturbance of the neural, immune, and endocrine systems. The endocrine system is responsible for hormone production, the neural system is obviously in charge of the nerves (which hormones play a large role on), and the immune system can also be impacted in large part by the hormones. Finally, we can mention the straight up neurotransmitters in their apparent roles with fibromyalgia. The disease is associated with inadequate “deep sleep” and sleep that doesn’t do its proper job and leave one feeling refreshed.

LE: Once sleep is mentioned, is there any evidence that melatonin may be of some benefit to fibromyalgia sufferers?

Dzugan: Fibromyalgia sufferers have been observed to have low melatonin levels and, as you mentioned, supplementation of melatonin for individuals with fibromyalgia resulted in reduced pain, sleep issues, and depression.

LE: Like the above example, in many parts of your book, you offer simple solutions to problems mainstream medicine often uses dangerous drugs to fix. One such interesting solution involved magnesium, right?

Dzugan: According to the Agricultural Research Service, which is part of the United States Department of Agriculture (USDA), 43% of the population in the United States receives adequate magnesium through diet, meaning of course that more than

half don’t. Magnesium can have a calming effect on the nervous system and as such can be a great aid in helping with issues ranging from headaches and migraine to muscle spasms. And yes, constipation. Based on the symptoms and issues often presented in individuals who want to take the restorative medicine approach, magnesium is often a given recommendation.

LE: How does magnesium work its magic?

Dzugan: In order for mitochondria, the energy producing organelles within cells, to function and produce more ATP, they first need to be powered by ATP that is bound to magnesium. Knowing this vital function of magnesium leads to no surprise at the variability and potential severity of symptoms of magnesium deficiency—starting on the mild level with muscle cramps and fatigue, moving up to full on muscle spasms and nausea, all the way up to heart failure.

LE: These alternatives to side-effect laden drugs are excellent, but for many people who have been on antibiotics or drugs for a long time, stomach issues are a big problem, right?

Dzugan: One must always keep in mind that when bad bacteria set up shop in our body, we are often prescribed antibiotics. Unfortunately, while the bacteria in our intestines have friend or foe targeting, the antibiotic won’t hear any of that. When the antibiotic goes to work, it gets down to business and likes to annihilate everything in its path. While that tends to kill our foreign invaders, it also causes some serious Dresden bombing action on our civilian bacteria population. Hence, the reason that antibiotics have the

common side effect of diarrhea is because your native population of the Home Team is suddenly at a disadvantage.

LE: And this is where probiotics come in to aid intestinal flora? Why are they so valuable?

Dzugan: Good digestion and absorption are not the only aspects that intestinal flora help us with. They are also responsible for boosting our overall immune system by helping prevent the growth of pathogenic bacteria, the kind we certainly don’t want, in our digestive tract. This hefty “us or them” approach allows beneficial bacteria to flourish and bring in more of their type while trying to keep the bad ones out in the rain. Intestinal flora can also potentially help with allergy prevention and inflammatory bowel diseases such as Crohn’s.

LE: From probiotics to melatonin, it appears that the physiologic approach can have a lot of practical uses for restoring human health.

Dzugan: There is a lot of information out there about the physiologic approach and its applications, and it’s only necessary to put the information together to make an informed decision and to utilize it. Remember, the information is out there for you to look through.

LE: Thanks, Dr. Dzugan.

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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- Promotes insulin sensitivity.⁶
- Regulates *PPAR-gamma*, a metabolic thermostat controlling glucose metabolism.^{6,7}
- Regulates the enzyme *alpha-amylase*, which in turn controls the release of sugar found in starch.^{3,4}

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- Promotes insulin sensitivity.¹³

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Phloridzin is a natural polyphenol found in various fruit trees.¹⁴ Phloridzin helps maintain healthy blood sugar levels, among those in the normal range by:

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Phloridzin [from apple extract (root bark)]	100 mg

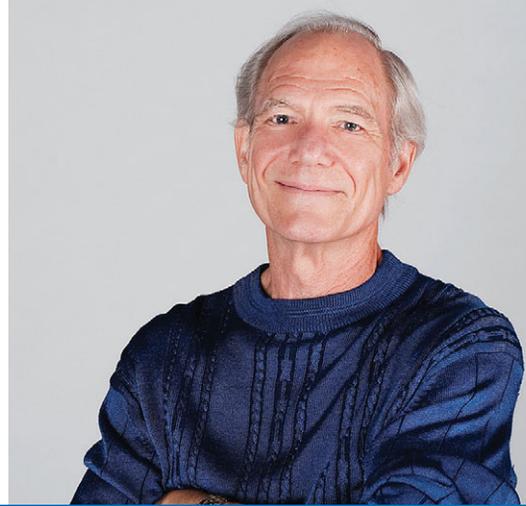
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WELLNESS PROFILE

BY JON FINKEL

Ross Pelton

The Natural Pharmacist



While mainstream medicine focuses its attention on poor dietary habits as a major cause of nutrient deficiency, one man is shining a light on another, potentially more nutrient-sapping culprit: prescription drugs; more specifically, oral contraceptives.¹

“Oral contraceptives deplete nutrients more than any other class of drugs,” Ross Pelton, author of the new book, *The Pill Problem*, says. “The hormones in these drugs are very strong chemicals. I don’t believe nature ever intended for women to put these hormones in their mouths or to have them introduced in their gastrointestinal tracts. Once there, they cause irritation that heavily interferes with the absorption of nutrients.”²

Pelton is a pharmacist, a health educator, a Certified Clinical Nutritionist, and the author of several books, including *The Drug-Induced Nutrient Depletion Handbook*, *The Natural Therapeutics Pocket Guide*, *How to Prevent Breast Cancer*, and *Mind Food and Smart Pills*.

“When it comes down to it, all the B vitamins are depleted from oral contraceptive use,” Pelton says.^{1,3} “Magnesium, selenium, zinc, and CoQ10 are depleted as well.^{1,3,4} When I started to look at the incredible range of nutrients that are depleted by a pill many women take on a regular basis, I started to realize that there are a lot of potential health problems that are exacerbated by these issues.”

These issues manifest themselves in many ways. A direct lack of absorption of folate or certain B vitamins can result in a deficiency that causes a loss of appetite, weight loss, weakness, headaches, and in severe cases, heart palpitations. Advanced deficiency could even lead to anemia.⁵

In addition, downstream health hazards from poor nutrient absorption may be just as dangerous.

“When certain nutrients related to mood are poorly absorbed due to contraceptive use, it increases the likelihood that a woman will become depressed,” Pelton explains. “And anti-depressant drugs are brutal with their side effects. I know that the pill was one of the most important social and cultural revolutions in the entire world. My message to women is that there are some natural and relatively easy and inexpensive steps they can take to correct many of these problems related to oral contraceptives.”

Some Surprising Studies

Two of the nutrient depletions that Pelton is most concerned about regarding women taking oral contraceptives are vitamin B6 and tyrosine.

“Vitamin B6 is required for the production of serotonin,” he says.⁶

“Serotonin gets converted to melatonin, which is why a B6 deficiency may lead to sleep problems.⁶ Sleep problems are often diagnosed and treated with drugs, when a B6 supplement may be effective. Any time I can keep a woman off prescription drugs I consider it a service.”

Pelton points out that some studies show that oral contraceptives deplete tyrosine as well.⁷ Tyrosine is a precursor for the production of dopamine and norepinephrine, which are involved in a vast array of brain functions, including motivation, stress, cognition, and arousal.

“One doctor in Australia compared the use of oral contraceptives over time with women who didn’t use them,” Pelton says. “The study revealed that the women taking the contraceptives were almost two times as likely to develop depression as non-users.⁸ It’s no wonder that there has been a greater incidence of depression recently.”

The ultimate problem with these deficiencies and all the others that exist with both oral contraceptives and prescription drugs in general is the lack of awareness on the part of the general public.

“If an individual is prescribed a drug and there is an interaction or side effect, you usually know relatively quickly if there is a problem,” Pelton says. “You get a rash or nausea or whatever the symptoms are. But nutrient depletion happens gradually over time. You may be seemingly without problems for years.”

Over the last six months, Pelton has listened to women increasingly complain about a wide range of seemingly generic problems, including a lack of energy, restless sleep, and malaise. He says that women need to understand that a deficiency in vitamin B12 or folic acid or magnesium or even selenium can cause a number of those problems.

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Tocotrienols

Taking Charge

With oral contraceptives and prescription drugs hindering the population’s ability to process nutrients, supplementation is more important than ever.

“I think that a basic one-a-day vitamin is insufficient,” Pelton says. “I think the RDA (recommended daily allowance) really stands for Really Dumb Allowance. It has virtually nothing to do with nutrient balance. When I meet with people, I try to get them started on something like the Life Extension® Two-Per-Day, which is one of the best examples of a quality, formulated supplement.”

Pelton says that a good overall nutritional supplement program can compensate for a majority of the side effects induced by drugs. He points to CoQ10 as an example.

“CoQ10 is one of the most critical nutrients for energy production at a cellular level,” he says. “Depletion can lead to fatigue and low energy levels over time. It can lead to sore and achy muscles and even headaches. A simple, quality CoQ10 supplement can eliminate these problems and prevent them

from occurring again if they're the result of low levels of that enzyme."

Pelton goes a step further and cites a study from Australia that claims that the real, primary cause of aging is free radical damage in your mitochondrial DNA.⁹ Without an extensive network of repair enzymes in the cell, this free radical damage becomes long-term and non-reversible.⁹

"CoQ10 deficiency may accelerate the process," he says. "Supplementation may do the reverse."

On A Personal Level

Pelton has been subscribing to *Life Extension* since it was a simple eight-page newsletter, and he is a member of the Medical Advisory Board.

"I've been in touch with Bill Faloon over the years and I've always been impressed with Life Extension's commitment to quality. I feel really comfortable recommending Life Extension products. They're high end, very pure, with active ingredients. Not to mention the fact that the magazine itself and the staff in general provide a phenomenal service in terms of health and supplement education."

Pelton takes a vast array of Life Extension products, including Life Extension Mix, vitamin C, vitamin D, CoQ10, Omega-3, Cognitex, chromium, curcumin, resveratrol, Ultra Natural Prostate Formula, DHEA, acetyl-L-carnitine, and tocotrienols.

"I'm also really hot on the importance of probiotics," he says.

In addition to a thorough supplement regimen and a diet filled with healthy, organic foods, Pelton works out heavily and has recently become involved with CrossFit exercise. For those not familiar,

CrossFit training involves a mix of high intensity aerobic exercises with strength training, Olympic movements, and body weight movements.

"I am a total convert," he says. "I try to go three times a week. For people that can put that kind of effort into a workout, I think you really get the most bang for your buck in terms of intense physical fitness."

Of course, there is a major health payoff as well.

"I recently read about a study from a group of Italian gerontologists who examined a large group of elderly people who were healthy," he says.¹⁰ "Instead of looking at old people who were sick and trying to figure out why they were sick, they looked at hundreds of different parameters involving the healthy people, and it turns out the number one thing you can do for healthy aging is to maintain your muscle mass as you age."

With a healthy diet, a healthy supplement regimen, and a healthy exercise program, Ross Pelton will be able to help people counteract the nutrient problems caused by prescription drugs for many, many years to come. ●

For information about ordering **The Pill Problem**, please visit: www.thepillproblem.com.

For general information on **Ross Pelton**, please visit: www.naturalpharmacist.net.

Ross Pelton began his career in the health sciences by graduating from the University of Wisconsin School of Pharmacy in 1966. Ross worked as a pharmacist for a number of years before joining the Peace Corps in 1972. He taught high school chemistry for 2 years in Malaysia, and also closely observed

the village shamans and native healing arts in Malaysia, Thailand, and Indonesia. In addition to his extensive work as a book author, in the 1980s he spent time as a cancer researcher at the University of California San Diego and eventually became the administrator of an alternative cancer treatment hospital in Baja, Mexico. In 1994 Ross became a certified clinical nutritionist. A significant part of Ross' career has been devoted to speaking, writing, and conducting seminars on a variety of health-related topics.

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

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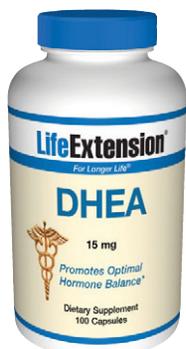
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*J Ethnopharmacol. 1997;56:45-54.
References for most can be found at: http://www.lef.org/magazine/mag2007/feb2007_report_cognitex_03.htm

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	Natural adjuvant treatments for thyroid disease	Dr. Rudy Proesmans
8.15 – 10.15	AGING WOMEN	
	Essential oils to improve skin and neurological diseases	Ph. Dominique Baudoux
	Oral supplements for prevention of premature skin aging by UV	Dr. Stan Pavel
	The aging skin: The medical therapies that can boost it	Prof. Johannes Huber
	The birth-control pill: Its untold dangers and natural alternatives	Prof. Henri Joyeux
10.45 – 12.30	AGING MEN	
	Grumpy old men may be testosterone deficient	Prof. Claude Schulman
	Vasopressin/Desmopressin in the treatment of Nocturia	Prof. Karel Everaert
	Erectile function: How to solve all the pitfalls?	Dr. Ronald Virag
14.00 – 16.20	LIVING LONGER	
	Low level ionizing radiation and non-ionizing radiation: mitigating their effects with melatonin	Prof. Russel Reiter
	Reviving death cells: Therapy to end or delay aging?	Prof. Miroslav Radman
	How long can we extend lifespan?	Dr. Laurent Alexandre
	Epigenetic and molecular mechanisms of vitality increase	Prof. Vladimir Khavinson
17.00 – 18.00	AGING WOMEN	
	Hormones therapies of Female sexuality	Dr. Thierry Hertoghe

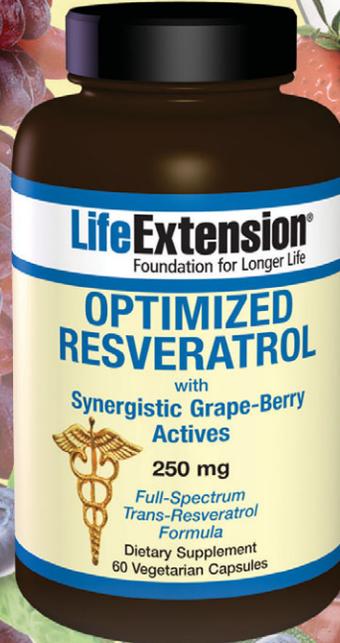
ENGLISH OR FRENCH WITH TRANSLATION—ACCREDITATION POINT REQUESTED SUNDAY, MARCH 23

Day address: The Hotel, Bd de Waterloo 38, B-1000 Brussels

Get more information and register by contacting Claude Mahaux by email: wosaam@wosaam.ws
or by phone: For USA and Canada: call 011 - 352 621 20 42 89
For all other countries: call 00352 - 621 20 42 89

ADVANCED

Item # 01430



Resveratrol Formula

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

Since then, we have identified additional 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.

Compelling evidence reveals that certain compounds found in berries, such as **pterostilbene** and **fisetin**, possess potent "longevity gene" activators that work in synergy with **resveratrol**. For example, **fisetin** (found in strawberries) has been shown to **stabilize** resveratrol in the body by shielding it from metabolic breakdown,¹⁻¹⁰ thus extending its beneficial effects.

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

References

1. *Cell*. 2006 Dec 15;127(6):1109-22.
2. *Endocrinology*. 2008 Jan;149(1):84-92.
3. *Crit Care Med*. 2004 Oct;32(10):2097-103.
4. *J Agric Food Chem*. 1999 Apr;47(4):1416-21.
5. *Arch Pharm Res*. 2002 Oct;25(5):561-71.
6. *Nutr Cancer*. 1999;35(1):80-6.
7. *Anticancer Agents Med Chem*. 2006 Sep;6(5):389-406.
8. *Nature*. 2006 Nov 16;444(7117):337-42.
9. *Nature*. 2004 Aug 5;430(7000):686-9.
10. *Xenobiotica*. 2000 Sep;30(9):857-66.

High-Potency Resveratrol with Synergistic Activators

Life Extension[®] members gain access to standardized **trans-resveratrol** combined with botanical extracts that favorably influence longevity gene expression. Unlike many commercial formulas, Life Extension standardizes to **trans-resveratrol**, which researchers contend is the most active constituent.

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 **\$31** per bottle. The suggested dose of one capsule a day provides:

The suggested dose of one capsule a day provides:

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

To order **Optimized Resveratrol with Synergistic Grape-Berry Actives**, 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.



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

Five Easy Steps:

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

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

For Our Local Members:

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

Blood Testing The Ultimate Information

MOST POPULAR PANELS

Life Extension Member Pricing

- COMPREHENSIVE PANELS**

○ MALE LIFE EXTENSION PANEL (LC322582) \$269
Chemistry Profile includes glucose, cholesterol, LDL, HDL, triglycerides, liver and-kidney function tests PLUS 20 additional tests. **CBC** includes immune (white) cell count, red blood cell count and platelet count. Also includes: **C-Reactive Protein**
DHEA-S **Homocysteine**
TSH for thyroid function **Free Testosterone**
Estradiol **Total Testosterone**
Vitamin D 25- hydroxy **PSA (prostate-specific antigen)**
Hemoglobin A1c
- FEMALE LIFE EXTENSION PANEL (LC322535) \$269**
Chemistry Profile includes glucose, cholesterol, LDL, HDL, triglycerides, liver and-kidney function tests PLUS 20 additional tests. **CBC** includes immune (white) cell count, red blood cell count and platelet count. Also includes: **C-Reactive Protein**
DHEA-S **Homocysteine**
TSH for thyroid function **Free Testosterone**
Estradiol **Total Testosterone**
Progesterone **Vitamin D 25- hydroxy**
Hemoglobin A1c
- MALE WEIGHT LOSS PANEL (LCWLM) \$299**
Chemistry Profile includes glucose, cholesterol, LDL, HDL, triglycerides, liver and-kidney function tests PLUS 20 additional tests. **CBC** includes immune (white) cell count, red blood cell count and platelet count. Also includes: **C-Reactive Protein**
DHEA-S **Insulin**
SHBG **Free Testosterone**
Estradiol **Total Testosterone**
Free T3 **Free T4**
TSH for thyroid function **PSA (prostate-specific antigen)**
- FEMALE WEIGHT LOSS PANEL (LCWLF) \$299**
Chemistry Profile includes glucose, cholesterol, LDL, HDL, triglycerides, liver and-kidney function tests PLUS 20 additional tests. **CBC** includes immune (white) cell count, red blood cell count and platelet count. Also includes: **C-Reactive Protein**
DHEA-S **Insulin**
Progesterone **Free Testosterone**
Estradiol **Total Testosterone**
Free T3 **Free T4**
TSH for thyroid function **SHBG**
- MALE HORMONE ADD-ON PANEL (LCADDM)* \$155**
Pregnenolone and Dihydrotestosterone (DHT)
 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.
- FEMALE HORMONE ADD-ON PANEL (LCADD)* \$125**
Pregnenolone and Total Estrogens
 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.
- LIFE EXTENSION THYROID PANEL (LC304131) \$75**
 TSH, T4, Free T3, Free T4.
- FEMALE COMPREHENSIVE HORMONE PANEL* (LC100011) \$299**
 CBC/Chemistry Profile (see description above), DHEA-S, Estradiol, Total Estrogens, Progesterone, Pregnenolone, Total and Free Testosterone, SHBG, TSH, Free T3.
- MALE COMPREHENSIVE HORMONE PANEL* (LC100010) \$299**
 CBC/Chemistry Profile (see description above), DHEA-S, Estradiol, DHT, PSA, Pregnenolone, Total and Free Testosterone, SHBG, TSH, Free T3.
- THE CBC/CHEMISTRY PROFILE (LC381822) \$35**
Note: This CBC/Chemistry Profile is included in many Life Extension panels. Please check panel descriptions.
CARDIOVASCULAR RISK PROFILE
 Total Cholesterol Cholesterol/HDL Ratio
 HDL Cholesterol Estimated CHD Risk
 LDL Cholesterol Glucose
 Triglycerides Iron
LIVER FUNCTION PANEL
 AST (SGOT) Total Bilirubin
 ALT (SGPT) Alkaline Phosphatase
 LDH
KIDNEY FUNCTION PANEL
 BUN BUN/Creatinine Ratio
 Creatinine Uric Acid
BLOOD PROTEIN LEVELS
 Total Protein Globulin
 Albumin Albumin/Globulin Ratio
BLOOD COUNT/RED AND WHITE BLOOD CELL PROFILE
 Red Blood Cell Count Monocytes
 White Blood Cell Count Lymphocytes
 Eosinophils Platelet Count
 Basophils Hemoglobin
 Polys (Absolute) Hematocrit
 Lymphs (Absolute) MCV
 Monocytes (Absolute) MCH
 Eos (Absolute) MCHC
 Baso (Absolute) Polynucleated Cells
 RDW
BLOOD MINERAL PANEL
 Calcium Sodium
 Potassium Chloride
 Phosphorus Iron
- COMPREHENSIVE THYROID PANEL (LC100018) \$199**
 TSH, T4, Free T4, Free T3, Reverse T3, TPO, ATA
- FOOD SAFE ALLERGY TEST** (LCM73001) \$198**
 This test measures delayed (IgG) food allergies for 95 common foods.
- ADRENAL FUNCTION PANEL (LC100021) \$136**
 DHEA-S, AM/PM Cortisol, Glucose, Insulin, Lipid Panel, RBC magnesium
- OMEGA SCORE™*** (LCOMEGA) \$131.25**
 Provides valuable information on your risk of developing heart disease, sudden heart attack, and cardiac death. The Omega Score™ also includes your AA:EPA ratio, allowing you to determine and track a major factor in total body inflammation.
- MITOCHONDRIAL FUNCTION PANEL* (LC100020) \$159**
 Carnitine (Free with Total), CoQ10, Glucose
- VAP™ TEST* (LC804500) \$90**
 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.

* 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.



Other Popular Tests and Panels Life Extension Member Pricing

- | | |
|---|--|
| <input type="radio"/> ENERGY PROFILE (LC100005) \$375
CBC/Chemistry Profile (see description), Epstein –Barr Virus antibodies (IgG and IgM), Cytomegalovirus Antibodies (IgG and IgM), Ferritin, Total and Free Testosterone, DHEA-S, Free T3, Free T4, Cortisol, C-Reactive Protein (high sensitivity), Vitamin B12, Folate, Insulin. | <input type="radio"/> HORMONES
DHEA-SULFATE (LC004020) \$61
This test shows if you are taking the proper amount of DHEA. This test normally costs \$100 or more at commercial laboratories. |
| <input type="radio"/> ANEMIA PANEL* (LC100006) \$86
CBC/Chemistry Profile (see description), Ferritin, Total Iron Binding Capacity (TIBC), Vitamin B12, Folate, Reticulocyte Count. | <input type="radio"/> DIABESITY PANEL* (LC100019) \$159
Glucose, Insulin, HbA1c, VAP™, Cortisol, C-Reactive Protein |
| <input type="radio"/> INFLAMMATION PANEL (LC100007) \$135
CBC/Chemistry Profile (see description above), C-Reactive Protein (high sensitivity), Sedimentation Rate, Rheumatoid (RA) Factor, Antinuclear Antibodies (ANA) Screen. | <input type="radio"/> MALE BASIC HORMONE PANEL (LC100012) \$75
DHEA-S, Estradiol, Free and Total Testosterone, PSA |
| <input type="radio"/> THYROID ANTIBODY PROFILE (LC100004) \$99
Thyroid Antithyroglobulin Antibody (ATA) and Thyroid Peroxidase Antibody (TPO). | <input type="radio"/> FEMALE BASIC HORMONE PANEL (LC100013) \$75
DHEA-S, Estradiol, Free and Total Testosterone, Progesterone |
| <input type="radio"/> CARDIAC PLUS* (LC100008) \$145
CBC/Chemistry profile (see description), Vitamin D 25-hydroxy, C-Reactive Protein (high sensitivity), Fibrinogen, Homocysteine. | <input type="radio"/> DIHYDROTESTOSTERONE (DHT)* (LC500142) \$99
Measures serum concentrations of DHT. |
| <input type="radio"/> VAP™ PLUS* (LC100009) \$330
VAP, C-Reactive Protein (high sensitivity), Homocysteine, Fibrinogen, PLAC® Test (Lp-PLA2), Vitamin D 25-hydroxy. | <input type="radio"/> ESTRADIOL (LC004515) \$33
For men and women. Determines the proper amount in the body. |
| CARDIAC RISK | <input type="radio"/> INSULIN FASTING (LC004333) \$25
Can predict those at risk of diabetes, obesity, and heart and other diseases. |
| <input type="radio"/> COQ10* (COENZYME Q10) (LC120251) \$99
This test is used to check the blood level of CoQ10 and will enable more precise dosing for anyone seeking to achieve and maintain high levels of this critical antioxidant. | <input type="radio"/> PREGNENOLONE* (LC140707) \$116
Used to determine ovarian failure, hirsutism, adrenal carcinoma, and Cushing's syndrome. |
| <input type="radio"/> Lp-PLA2 (PLAC® TEST) (LC123240) \$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. | <input type="radio"/> PROGESTERONE (LC004317) \$55
Primarily for women. Determines the proper amount in the body. |
| <input type="radio"/> 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. | <input type="radio"/> SEX HORMONE BINDING GLOBULIN (SHBG) (LC082016) \$33
This test is used to monitor SHBG levels which are under the positive control of estrogens and thyroid hormones, and suppressed by androgens. |
| <input type="radio"/> FIBRINOGEN* (LC001610) \$31
High levels of this blood-clotting factor increase the risk of heart attack and stroke. | BONE HEALTH |
| <input type="radio"/> 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-clogging metabolic debris that can be lowered with high doses of TMG, vitamin B6, and vitamin B12. | <input type="radio"/> 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. |
| MALE HEALTH | <input type="radio"/> OSTEOCALCIN* (LC010249) \$91
Osteocalcin is often used as a biochemical marker, or biomarker, for the bone formation process. It has been routinely observed that higher serum osteocalcin levels are relatively well correlated with bone diseases characterized by increased bone turnover, especially osteoporosis. |
| <input type="radio"/> PSA (PROSTATE-SPECIFIC ANTIGEN) (LC010322) \$31
Can provide an early warning sign for prostate disorders and possible cancer. | <input type="radio"/> DPD CROSS LINK URINE TEST (LC511105) \$79
The deoxypyridinoline (DPD) urine test can be used to measure bone re-absorption rates in healthy individuals and in those with enhanced risk of developing metabolic bone diseases. Deoxypyridinoline can be used to monitor therapies (which may include bisphosphonate drugs) in people diagnosed with osteoporosis. |
| <input type="radio"/> FREE-PSA (INCLUDES TOTAL PSA)* (LC480780) \$61
Recommended to determine if an elevated PSA is indicative of prostate cancer. | |

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.

3600 West Commercial Boulevard
Fort Lauderdale, FL 33309

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

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

Blood tests available only in
the continental United States.
Not available in Maryland.

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
Glycine Capsules
L-Arginine Capsules
Arginine/L-Ornithine Capsules
L-Carnitine Capsules
L-Carnitine Powder Natural Lemon Flavor
L-Glutathione, L-Cysteine & C
L-Glutamine Capsules
L-Glutamine Powder
L-Lysine Capsules
L-Tyrosine Tablets
Mega L-Glutathione Capsules
N-Acetyl-L-Cysteine Capsules
Optimized Carnitine with GlycoCarn®
PharmaGABA
Super Carnosine Capsules
Taurine Capsules

BONE & JOINT HEALTH

ArthroMax® with Theaflavins and AprèsFlex®
ArthroMax® Advanced with UC-II® and
AprèsFlex®
Bone-Up™
Bone Restore
Bone Restore w/Vitamin K2
Bone Strength Formula w/KoAct™
Dr. Strum's Intensive Bone Formula
Fast Acting Joint Formula
Glucosamine Chondroitin Capsules

BRAIN HEALTH

Acetyl-L-Carnitine
Acetyl-L-Carnitine-Arginate
Brain Shield™
CDP Choline Capsules
Cognitex® with Brain Shield™
Cognitex® with Pregnenolone &
Brain Shield™
Cognitex® Basics
DMAE Bitartrate
Ginkgo Biloba Certified Extract™
Huperzine A
Lecithin Granules
Methylcobalamin Lozenges
Migra-Mag with Brain Shield™
Neuro-Mag™ Magnesium L-Threonate
Optimized Ashwagandha Extract
Phosphatidylserine Capsules
Rhodiola Extract
Super Ginkgo Extract
Vinpocetine

DIGESTIVE

Bifido GI Balance
Carnosoothe w/PicroProtect
Digest RC™
Esophageal Guardian
Enhanced Super Digestive Enzymes
Extraordinary Enzymes
FlorAssist™
Gutsy Chewy Digestive Tablets
LACTOSOLV™ Long Lasting Digestion
Pancreatin
Regimint
Theralac Probiotics

DURK AND SANDY PRODUCTS

Blast™
Inner Power™

EYE CARE

Bilberry Extract
Brite Eyes III
Eye Pressure Support with Mirtogenol®
MacuGuard™ Ocular Support
MacuGuard™ Ocular Support with Astaxanthin
Solarshield Sunglasses

FIBER

AppleWise Polyphenol
Fiber Food
TruFiber®
WellBetX PGX® plus Mulberry

FOOD

Rich Rewards™ Black Bean Vegetable Soup
Rich Rewards™ Spicy Cruciferous Vegetable Soup
Rich Rewards™ Cruciferous Vegetable Soup
Rich Rewards™ Lentil Soup
Rich Rewards™ Mung Bean Soup with Turmeric
Rich Rewards® Coffee
(Available in mocha, vanilla and decaffeinated)
Rich Rewards™ Dark Chocolate

HAIR CARE

Dr. Proctor's Advanced Hair Formula
Dr. Proctor's Shampoo
Super-Absorbable Tocotrienols

HEART HEALTH

AppleWise Polyphenol
Advanced Lipid Control
Aspirin (Enteric Coated)
Cardio Peak™ w/Standardized Hawthorn and Arjuna
Cho-Less™
D-Ribose Tablets
D-Ribose Powder
Endothelial Defense™ with
Full-Spectrum Pomegranate™
Fibrinogen Resist
Forskolin
Homocysteine Resist
Natural BP Management
Olive Leaf Vascular Support
Peak ATP® with GlycoCarn®
PhosphOmega®
Policosanol
PROVINAL® Purified Omega-7
Pycnogenol® French Maritime Pine Bark Extract
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 BioPQQ®
Super Ubiquinol CoQ10 with Enhanced
Mitochondrial™ Support
Theaflavin Standardized Extract
TMG Powder
TMG Liquid Capsules

HERBAL/PHYTO PRODUCTS

Artichoke Leaf Extract
Asian Energy Boost
Astaxanthin w/Phospholipids
Berry Complete
Blueberry Extract
Blueberry Extract w/Pomegranate
Butterbur Extract w/Standardized
Rosmarinic Acid
Calcium D-Glucarate
Enhanced Berry Complete with Acai
Full-Spectrum Pomegranate™
Grapeseed Extract with Resveratrol &
Pterostilbene
Huperzine A
Kyolic® Garlic Formula 102 + 105
Kyolic® Reserve
Mega Green Tea Extract
Mega Green Tea Extract (Decaffeinated)
(also w/CoffeeGenic® Green Coffee Extract)
Mega Lycopene Extract
Optimized Ashwagandha Extract
Optimized Garlic
Pomegranate Extract
Pomegranate Juice Concentrate
Pycnogenol
Optimized Quercetin

Resveratrol with Synergistic Grape-Berry Actives
Rhodiola Extract
Silymarin
SODzyme™ with GliSODin®
Stevia Extract
Advanced Bio-Curcumin®
with Ginger & Turmerones
Super Bio-Curcumin®
Super Ginkgo Extract
Triple Action Cruciferous Vegetable Extract
Venotone
Whole Grape Extract

HORMONES

Advanced Natural Sex for Women® 50+
7-KETO® DHEA
DHEA
DHEA Complete
GH Pituitary Support Day Formula
GH Pituitary Support Night Formula
Liquid Melatonin
Melatonin
Melatonin Timed Release
Natural Estrogen with Pomegranate Extract
Pregnenolone
ProgestaCare for Women
Super Miraforte with Standardized Lignans

IMMUNE ENHANCEMENT

AHCC® (Active Hexose Correlated Compound)
Black Cumin Seed Oil
Black Cumin Seed Oil w/Bio-Curcumin®
Buffered Vitamin C Powder
Echinacea Extract
FlorAssist™ Probiotic
i26 Hyperimmune Egg
Immune Modulator w/Tinofend®
Immune Protect with PARACTIN®
Lactoferrin
Norwegian Shark Liver Oil
Optimized Fucoidan w/Maritech® 926
Peony Immune
ProBoost™ Thymic Protein A
Reishi Extract Mushroom Complex
Vitamin C with Dihydroquercetin
Winter Wellness™
Zinc Lozenges

INFLAMMATORY REACTIONS

Arthro-Immune Joint Support
ArthroMax® with Theaflavins
Boswella
Bromelain (Specially-coated)
Cytokine Suppress™ with EGCG
DHA (Vegetarian Sourced)
Fast Acting Joint Formula
Ginger Force
Krill Healthy Joint Formula
5-LOX Inhibitor w/AprèsFlex®
Mega EPA/DHA
Mega GLA with Sesame Lignans
MSM
Omega-3 Whirl
Organic Golden Flax Seed
Serraflazyme
SODzyme™ with GliSODin® and Wolfberry
Super Omega-3 EPA/DHA with Sesame
Lignans & Olive Fruit Extract
Tart Cherry w/Standardized CherryPURE®
Zyflamend® Whole Body

LIVER HEALTH

Branch Chain Amino Acids
Certified European Milk Thistle
N-Acetyl Cysteine
Liver Efficiency Formula
European Milk Thistle
Advanced Phospholipid Delivery
Hepatopro
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
 Only Trace Minerals
 Optimized Chromium w/Crominex® 3+
 OptiZinc
 Sea-Iodine™
 Selenium
 Se-Methyl L-Selenocysteine
 Strontium
 Vanadyl Sulfate
 Zinc Lozenges

MISCELLANEOUS

Blood Pressure Monitor Arm Cuff
 CR Way Edition Advanced Dietary Software

MITOCHONDRIAL SUPPORT

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

MOOD RELIEF

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

MOUTH CARE

Advanced Oral Hygiene
 Mouthwash w/Pomegranate
 Toothpaste
 Xyliwhite™ Mouthwash

MULTIVITAMIN

Booster
 Children's Formula Life Extension Mix™
 Comprehensive Nutrient Packs Basic
 Comprehensive Nutrient Packs Advanced
 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

PET CARE

Cat Mix
 Dog Mix

PROSTATE & URINARY HEALTH

Optimized Cran-Max® with UTIRose™
 5-LOXIN®
 PalmettoGuard™ Saw Palmetto w/Beta Sitosterol

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

SKIN CARE

Advanced Triple Peptide Serum
 Advanced Under Eye Serum with Stem Cells
 Amber Self MicroDermAbrasion
 Anti-Aging Mask
 Anti-Glycation Serum
 Anti-Aging Rejuvenating Face Cream with Coffee Extracts
 Antioxidant Rejuvenating Foot Cream
 Antioxidant Rejuvenating Foot Scrub
 Antioxidant Rejuvenating Hand Cream
 Antioxidant Rejuvenating Hand Scrub
 Anti-Redness & Blemish Lotion
 Bio-Collagen w/Patented UC-II®
 Bioflavonoid Cream
 Broccoli Sprout
 Corrective Clearing Mask
 DNA Repair Cream
 Dual-Action MicroDermAbrasion
 Essential Plant Lipids Reparative Serum
 Face Master® Platinum
 Face Rejuvenating Antioxidant Cream
 Enhanced FernBlock® with Red Orange Complex
 Fine Line-Less
 Hair Suppress Formula
 Healing Formula All-in-One Cream
 Healing Mask
 Hyaluronic Facial Moisturizer
 Hydrating Anti-oxidant Face Mist
 Hydroderm®
 Lifting & Tightening Complex
 Lycopene Cream
 Melatonin Cream
 Mild Facial Cleanser
 Neck Rejuvenating Antioxidant Cream
 Pigment Correcting Cream
 (Ultra) Rejuvenex®
 Rejuvenex® Body Lotion
 Rejuvenex® Factor Firming Serum
 Rejuvenating Serum
 Renewing Eye Cream
 Resveratrol Anti-Oxidant Serum
 Skin Lightening Serum
 Skin Restoring Phytoceramides w/Lipowheat®
 Skin Stem Cell Serum
 Stem Cell Cream w/Alpine Rose
 Ultra Rejuvenex®
 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 E-ssential Cream
 Vitamin K Healing Cream
 Youth Serum

SOY

Natural Estrogen w/Pomegranate
 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
 Green Coffee Extract CoffeeGenic® (also w/Glucose control)
 Coriolus Super Strength
 CR Mimetic Longevity Formula

Cinsulin® w/InSea2® and Crominex® 3+
 European Leg Solution Diosmin 95
 Fem Dophilus
 Femmenessence MacaPause®
 GlycemicPro™ Transglucosidase
 Migra-eeze™
 Natural Female Support
 Pecta-So!®
 Potassium Iodide
 PQQ Caps with BioPQQ®
 PteroPure™
 Prelox® Natural Sex for Men®
 Pyridoxal 5' - Phosphate
 Tri Sugar Shield™

SPORTS PERFORMANCE

Creatine Capsules
 DMG (N, N-dimethylglycine)
 L-Glutamine Capsules
 L-Glutamine Powder
 Whey Protein Isolate
 Whey Protein Concentrate

VITAMINS

Ascorbyl Palmitate Capsules
 B12
 Beta-Carotene
 Biotin Capsules
 Buffered Vitamin C Powder
 Complete B Complex
 Effervescent Vitamin C
 Fast-C®
 Folic Acid + B12
 Gamma E Tocopherol w/Sesame Lignans
 Gamma E Tocopherol/Tocotrienols
 Inositol Capsules
 Mega Lycopene Extract
 Methylcobalamin
 MK-7
 No-Flush Niacin
 Optimized Folate
 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 Lozenges
 Vitamin C
 Vitamin D3
 Vitamin D3 w/Sea-Iodine™
 Vitamins D and K w/Sea-Iodine™
 Vitamin E
 Vitamin K2

WEIGHT MANAGEMENT

Advanced Anti-Adipocyte Formula w/AdipoStat & Integra Lean®
 Advanced Natural Appetite Suppress
 Alli® Refill Pack
 Calorie Control Weight Management™ Formula w/CoffeeGenic® Green Coffee Extract
 CoffeeGenic® Weight Management™ with Green Coffee Extract
 7-KETO DHEA
 DHEA® Complete
 Fucoxanthin Slim™
 Garcinia HCA
 Integra-Lean® African Mango Irvingia
 LuraLean® Caps Special Propolmannan Particle Size
 Optimized Irvingia w/Phase 3™ Calorie Control Complex
 Optimized Saffron with Satiereal®
 Natural Appetite Control
 Natural Glucose Absorption Control
 Super Citrimax®
 Super CLA Blend w/Guarana and Sesame Lignans
 Super CLA Blend w/Sesame Lignans
 WellBetX PGX® plus Mulberry

Buyers Club Order Form

To order call: 1.954.766.8433 or 1.800.544.4440

No.		Retail Each	Member Each	Qty	Total
A					
01524	ACETYL-L-CARNITINE - 500 mg, 100 veg. caps	\$34.00	\$25.50		
	Buy 4 bottles, price each	30.00	22.50		
01525	ACETYL-L-CARNITINE ARGINATE - 100 veg. caps	59.00	44.25		
	Buy 4 bottles, price each	50.99	38.24		
01628	ADRENAL ENERGY FORMULA - 60 veg. caps	24.00	18.00		
	Buy 4 bottles, price each	22.00	16.50		
01630	ADRENAL ENERGY FORMULA - 120 veg. caps	46.00	34.50		
	Buy 4 bottles, price each	42.00	31.50		
01828	ADVANCED LIPID CONTROL - 60 veg. caps	30.00	22.50		
	Buy 4 bottles, price each	27.00	20.25		
01521	ADVANCED ORAL HYGIENE - 60 veg. mint lozenges	20.00	15.00		
	Buy 4 bottles, price each	18.00	13.50		
00681	AHCC - 500 mg, 30 caps	59.98	44.99		
*46925	ALLI® REFILL PACK - 120 caps	69.95	58.00		
00457	ALPHA-LIPOIC ACID w/BIOTIN (SUPER) - 250 mg, 60 caps	37.00	27.75		
	Buy 4 bottles, price each	32.00	24.00		
01440	ANTI-ALCOHOL ANTIOXIDANTS w/HEPATOPRO - 100 caps	26.00	19.50		
	Buy 4 bottles, price each	23.00	17.25		
01509	ANTI-ADIPOCYTE FORMULA w/ADIPOSTAT & INTEGRA LEAN® (ADVANCED) - 60 veg. caps	39.00	29.25		
	Buy 4 bottles, price each	36.00	27.00		
01625	APPLEWISE POLYPHENOL EXTRACT - 600 mg, 30 veg. caps	21.00	15.75		
	Buy 4 bottles, price each	19.00	14.25		
01039	ARGININE/ORNITHINE - 500/250, 100 caps	17.99	13.49		
00038	ARGININE/ORNITHINE POWDER - 150 grams	22.95	17.21		
	Buy 4 bottles, price each	19.00	14.25		
01624	(L)-ARGININE CAPS - 700 mg, 200 veg. caps	26.50	19.88		
	Buy 4 bottles, price each	23.25	17.44		
01617	ARTHROMAX® w/THEAFLAVINS & APRESFLEX® - 120 veg. caps	44.00	33.00		
	Buy 4 bottles, price each	40.00	30.00		
01618	ARTHROMAX® ADVANCED w/UC-II® & APRESFLEX® - 60 caps	36.00	27.00		
	Buy 4 bottles, price each	32.00	24.00		
01404	ARTHRO-IMMUNE JOINT SUPPORT - 60 veg. caps	32.00	24.00		
	Buy 4 bottles, price each	28.00	21.00		
00919	ARTICHOKE LEAF EXTRACT - 500 mg, 180 veg. caps	28.00	21.00		
	Buy 4 bottles, price each	25.38	19.04		
01533	ASCORBYL PALMITATE - 500 mg, 100 veg. caps	22.50	16.88		
	Buy 4 bottles, price each	20.00	15.00		
00888	ASHWAGANDHA EXTRACT (OPTIMIZED) - 60 veg. caps	10.00	7.50		
	Buy 4 bottles, price each	9.00	6.75		
01805	ASIAN ENERGY BOOST - 90 veg. caps	24.00	18.00		
	Buy 4 bottles, price each	22.00	16.50		
01066	ASPIRIN - 81 mg, 300 enteric coated tablets	6.00	4.50		
	Buy 4 bottles, price each	5.33	4.00		
01720	ASTAXANTHIN WITH PHOSPHOLIPIDS - 4 mg, 30 softgels	16.00	12.00		
	Buy 4 bottles, price each	14.00	10.50		
B					
00920	BENFOTIAMINE w/ THIAMINE - 100 mg, 120 veg. caps	\$19.95	\$14.96		
	Buy 4 bottles, price each	18.60	13.95		
00925	BENFOTIAMINE (MEGA) - 250 mg, 120 veg. caps	30.00	22.50		
	Buy 4 bottles, price each	27.00	20.25		
01206	BERRY COMPLETE - 30 veg. caps	21.00	15.75		
	Buy 4 bottles, price each	18.67	14.00		

SUB-TOTAL OF COLUMN 1

No.		Retail Each	Member Each	Qty	Total
01496	BERRY COMPLETE w/ACAI (ENHANCED) - 60 veg. caps	\$29.00	\$21.75		
	Buy 4 bottles, price each	26.00	19.50		
00664	BETA-CAROTENE - 25,000 IU, 100 softgels	11.25	8.44		
01622	BIFIDO GI BALANCE - 60 veg. caps	20.00	15.00		
	Buy 4 bottles, price each	18.00	13.50		
01073	BILBERRY EXTRACT - 100 mg, 100 veg. caps	42.00	31.50		
	Buy 4 bottles, price each	38.00	28.50		
01512	BIOACTIVE MILK PEPTIDES - 30 caps	18.00	13.50		
	Buy 4 bottles, price each	16.00	12.00		
01631	BIO-COLLAGEN w/PATENTED UC-II® - 60 caps	36.00	27.00		
	Buy 4 bottles, price each	32.00	24.00		
*01006	BIOSIL™ - 5 mg, 30 veg. caps	18.95	15.16		
*01007	BIOSIL™ - 1 fl oz	31.99	25.59		
00102	BIOTIN - 600 mcg, 100 caps	7.50	5.63		
	Buy 4 bottles, price each	6.50	4.88		
01709	BLACK CUMIN SEED OIL - 60 softgels	16.00	12.00		
	Buy 4 bottles, price each	14.00	10.50		
01710	BLACK CUMIN SEED OIL w/BIO-CURCUMIN® - 60 softgels	32.00	24.00		
	Buy 4 bottles, price each	30.00	22.50		
01008	BLAST™ - 600 grams of powder	26.95	20.21		
70000	BLOOD PRESSURE MONITOR - ARM CUFF (medium)	99.95	64.97		
70004	BLOOD PRESSURE MONITOR - WRIST (travel size)	69.95	52.46		
01214	BLUEBERRY EXTRACT - 60 veg. caps	22.50	16.88		
	Buy 4 bottles, price each	20.00	15.00		
01438	BLUEBERRY EXTRACT w/ POMEGRANATE - 60 veg. caps	30.00	22.50		
	Buy 4 bottles, price each	27.00	20.25		
01506	BONE FORMULA (DR. STRUM'S INTENSIVE) - 300 caps	56.00	42.00		
	Buy 4 bottles, price each	50.00	37.50		
01726	BONE RESTORE - 120 caps	22.00	16.50		
	Buy 4 bottles, price each	19.00	14.25		
01727	BONE RESTORE w/VITAMIN K2 - 120 caps	24.00	18.00		
	Buy 4 bottles, price each	22.00	16.50		
01725	BONE STRENGTH FORMULA w/KOACT® - 120 veg. caps	45.00	33.75		
	Buy 4 bottles, price each	40.00	30.00		
00313	BONE-UP® - 240 caps	28.95	21.71		
	Buy 4 bottles, price each	27.21	20.41		
01379	BOOSTER - 60 softgels	48.00	36.00		
	Buy 4 bottles, price each	44.00	33.00		
01680	BOOSTER w/ADVANCED K2 COMPLEX (SUPER) - 60 softgels	42.00	31.50		
	Buy 4 bottles, price each	38.00	28.50		
01661	BORON - 3 mg, 100 veg. caps	5.95	4.46		
	Buy 4 bottles, price each	5.25	3.94		
00202	BOSWELLA - 100 caps	38.00	28.50		
	Buy 4 bottles, price each	30.00	22.50		
01802	BRAIN SHIELD™ - 60 veg. caps	33.00	24.75		
	Buy 4 bottles, price each	30.00	22.50		
01253	BRANCHED CHAIN AMINO ACIDS - 90 veg. caps	19.50	14.63		
	Buy 4 bottles, price each	17.00	12.75		
01699	BREAST HEALTH FORMULA - 60 veg. caps	34.00	25.50		
	Buy 4 bottles, price each	30.00	22.50		
00893	BRITE EYES III - 2 vials, 5 ml each	34.00	25.50		
	Buy 4 boxes, price each	32.00	24.00		

SUB-TOTAL OF COLUMN 2

No.		Retail Each	Member Each	Qty	Total
01203	BROMELAIN (SPECIALLY-COATED) - 500 mg, 60 enteric coated tablets	\$21.00	\$15.75		
	Buy 4 bottles, price each	19.00	14.25		
00884	BUTTERBUR EXT. w/STANDARDIZED ROSMARINIC ACID - 60 softgels	44.00	33.00		
	Buy 4 bottles, price each	39.60	29.70		
C					
01653	CALCIUM CITRATE w/VITAMIN D - 300 caps	\$24.00	\$18.00		
	Buy 4 bottles, price each	21.25	15.94		
01651	CALCIUM D-GLUCARATE - 200 mg, 60 veg. caps	18.00	13.50		
	Buy 4 bottles, price each	15.00	11.25		
01693	CALORIE CONTROL WEIGHT MANAGEMENT FORMULA w/COFFEENIC® GREEN COFFEE EXTRACT BLUEBERRY FLAVOR - 414 grams powder	60.00	45.00		
	Buy 4 jars, price each	54.00	40.50		
	Buy 8 jars, price each	50.00	37.50		
01700	CARDIO PEAK™ w/STANDARDIZED HAWTHORN & ARJUNA - 120 veg. caps	36.00	27.00		
	Buy 4 bottles, price each	32.00	24.00		
00916	CARNITINE w/GLYCOCARN® (OPTIMIZED) - 60 veg. caps	36.00	27.00		
	Buy 4 bottles, price each	32.00	24.00		
01532	L-CARNITINE - 500 mg, 30 veg. caps	15.00	11.25		
	Buy 4 bottles, price each	13.20	9.90		
01719	L-CARNITINE POWDER NATURAL LEMON FLAVOR - 114 grams	28.00	21.00		
	Buy 4 jars, price each	24.00	18.00		
01258	CARNOSOOTHE w/PICROPROTECT™ - 60 veg. caps	29.95	22.46		
	Buy 4 bottles, price each	27.00	20.25		
01687	CARNOSINE (SUPER) - 500 mg, 90 veg. caps	66.00	49.50		
	Buy 4 bottles, price each	60.00	45.00		
01003	CAT MIX - 100 grams powder	15.00	11.25		
	Buy 4 jars, price each	12.00	9.00		
01659	CDP CHOLINE CAPS - 250 mg, 60 veg. caps	36.00	27.00		
	Buy 4 bottles, price each	34.00	25.50		
01391	CHILDREN'S FORMULA LIFE EXTENSION MIX™ - 100 chewable tablets	20.00	15.00		
	Buy 4 bottles, price each	18.00	13.50		
00550	CHLORELLA - 500 mg, 200 tablets	23.50	17.63		
01571	CHLOROPHYLLIN - 100 mg, 100 veg. caps	24.00	18.00		
	Buy 4 bottles, price each	20.00	15.00		
01359	CHO-LESS™ - 90 capsules	35.00	26.25		
01477	CHROMIUM ULTRA - 100 veg. caps	24.00	18.00		
	Buy 4 bottles, price each	21.00	15.75		
01504	CHROMIUM W/CROMINEX® 3+ (OPTIMIZED) - 500 mcg, 60 veg. caps	9.00	6.75		
	Buy 4 bottles, price each	8.00	6.00		
01503	CINSULIN® W/INSEA® AND CROMINEX® 3+ - 90 veg. caps	38.00	28.50		
	Buy 4 bottles, price each	34.00	25.50		
01818	CITRIMAX® (SUPER) - 180 veg. caps	40.00	30.00		
	Buy 4 bottles, price each	38.00	28.50		
00818	CLA BLEND w/SESAME LIGNANS (SUPER) - 1,000 mg, 120 softgels	36.00	27.00		
	Buy 4 bottles, price each	33.00	24.75		
	Buy 10 bottles, price each	26.33	19.75		
00819	CLA BLEND w/GUARANA & SESAME (SUPER) - 1,000 mg, 120 softgels	42.00	31.50		
	Buy 4 bottles, price each	38.33	28.75		
01707	COFFEENIC® WEIGHT MANAGEMENT™ w/GREEN COFFEE EXTRACT - 90 veg. caps	40.00	30.00		
	Buy 4 bottles, price each	36.00	27.00		

SUB-TOTAL OF COLUMN 3

No.		Retail Each	Member Each	Qty	Total
01896	COGNITEX® w/BRAIN SHIELD™ - 90 softgels	\$60.00	\$45.00		
	Buy 4 bottles, price each	52.00	39.00		
	Buy 8 bottles, price each	48.00	36.00		
01897	COGNITEX® w/PREGNENOLONE & BRAIN SHIELD™ - 90 softgels	62.00	46.50		
	Buy 4 bottles, price each	53.00	39.75		
	Buy 8 bottles, price each	50.00	37.50		
01421	COGNITEX® BASICS - 60 softgels	38.00	28.50		
	Buy 4 bottles, price each	35.00	26.25		
	Buy 12 bottles, price each	32.00	24.00		
01735	COMPLETE B-COMPLEX - 60 veg. caps	10.00	7.50		
	Buy 4 bottles, price each	9.00	6.75		
01795	COMPREHENSIVE NUTRIENT PACKS BASIC - 30 packs	48.00	36.00		
	Buy 4 boxes, price each	44.00	33.00		
01798	COMPREHENSIVE NUTRIENT PACKS ADVANCED - 30 packs	90.00	67.50		
	Buy 4 boxes, price each	82.00	61.50		
00119	COPPER CAPSULES - 2 mg, 100 caps	9.91	7.43		
00949	COQ10™ w/ #LIMONENE (SUPER ABSORBABLE) - 50 mg, 60 softgels	25.00	18.75		
	Buy 4 bottles, price each	22.00	16.50		
	Buy 10 bottles, price each	20.00	15.00		
00950	COQ10™ w/ #LIMONENE (SUPER ABSORBABLE) - 100 mg, 100 softgels	66.00	49.50		
	Buy 4 bottles, price each	60.00	45.00		
	Buy 10 bottles, price each	56.00	42.00		
01226	COQ10 (SUPER UBIQUINOL) - 100 mg, 60 softgels	56.00	42.00		
	Buy 4 bottles, price each	52.00	39.00		
	Buy 10 bottles, price each	48.00	36.00		
01733	COQ10 w/BIOPOQ® (SUPER UBIQUINOL) - 100 mg, 30 softgels	54.00	40.50		
	Buy 4 bottles, price each	50.00	37.50		
	Buy 10 bottles, price each	46.00	34.50		
01426	COQ10 w/ENH MITOCHONDRIAL SUPPORT™ (SUPER UBIQUINOL) - 100 mg, 60 softgels	62.00	46.50		
	Buy 4 bottles, price each	56.00	42.00		
	Buy 10 bottles, price each	52.00	39.00		
01425	COQ10 w/ENH MITOCHONDRIAL SUPPORT™ (SUPER UBIQUINOL) - 50 mg, 100 softgels	58.00	43.50		
	Buy 4 bottles, price each	53.00	39.75		
	Buy 10 bottles, price each	50.00	37.50		
01427	COQ10 w/ENH MITOCHONDRIAL SUPPORT™ (SUPER UBIQUINOL) - 50 mg, 30 softgels	20.00	15.00		
	Buy 4 bottles, price each	18.00	13.50		
01431	COQ10 w/ENH MITOCHONDRIAL SUPPORT™ (SUPER UBIQUINOL) - 200 mg, 30 softgels	62.00	46.50		
	Buy 4 bottles, price each	56.00	42.00		
	Buy 10 bottles, price each	52.00	39.00		
01053	CORIOLUS SUPER STRENGTH - 600 mg, 150 veg. caps	99.95	74.96		
80152	COSMESIS ADVANCED TRIPLE PEPTIDE SERUM - 1 oz bottle	65.00	48.75		
	Buy 2 bottles, price each	57.00	42.75		
80140	COSMESIS ADVANCED UNDER EYE SERUM w/STEM CELLS - .33 oz	49.00	36.75		
	Buy 2 bottles, price each	42.00	31.50		
80139	COSMESIS AMBER SELF MICRODERMABRASION - 2 oz	49.00	36.75		
	Buy 2 jars, price each	42.00	31.50		
80118	COSMESIS ANTI-AGING MASK - 2 oz	72.00	54.00		
	Buy 2 bottles, price each	63.36	47.52		
80151	COSMESIS ANTI-AGING REJUVENATING FACE CREAM - 2 oz jar	65.00	48.75		
	w/COFFEE EXTRACT Buy 2 jars, price each	57.00	42.75		
80134	COSMESIS ANTI-GLYCATION SERUM - 1 oz	33.00	24.75		
	w/BLUEBERRY & POMEGRANATE EXTRACTS				
	Buy 2 bottles, price each	31.35	23.51		

SUB-TOTAL OF COLUMN 4

Buyers Club Order Form

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No.		Retail Each	Member Each	Qty	Total
C CONTINUED					
80133	COSMESIS ANTIOXIDANT FACIAL MIST - 2 oz Buy 2 bottles, price each	\$32.00 30.40	\$24.00 22.80		
80127	COSMESIS ANTIOXIDANT REJUVENATING FOOT CREAM - 2 oz Buy 2 jars, price each	45.00 42.80	33.75 32.10		
80128	COSMESIS ANTIOXIDANT REJUVENATING FOOT SCRUB - 2 oz Buy 2 jars, price each	59.00 51.92	44.25 38.94		
80117	COSMESIS ANTIOXIDANT REJUVENATING HAND CREAM - 2 oz Buy 2 jars, price each	64.00 57.49	48.00 43.12		
80121	COSMESIS ANTIOXIDANT REJUVENATING HAND SCRUB - 2 oz Buy 2 jars, price each	58.00 51.04	43.50 38.28		
80105	COSMESIS ANTI-REDNESS & ADULT BLEMISH LOTION - 1 oz Buy 2 bottles, price each	74.50 65.56	55.88 49.17		
80147	COSMESIS BIOFLAVONOID CREAM - 1 oz jar Buy 2 jars, price each	46.00 39.00	34.50 29.25		
80144	COSMESIS BROCCOLI SPROUT CREAM - 1 oz Buy 2 jars, price each	46.00 39.00	34.50 29.25		
80120	COSMESIS CORRECTIVE CLEARING MASK - 2 oz Buy 2 jars, price each	64.50 56.76	48.38 42.57		
80141	COSMESIS DNA REPAIR CREAM - 1 oz jar Buy 2 jars, price each	49.00 42.00	36.75 31.50		
80108	COSMESIS ESSENTIAL PLANT LIPIDS REPARATIVE SERUM - 1 oz Buy 2 bottles, price each	74.95 65.95	56.21 49.46		
80123	COSMESIS FACE REJUVENATING ANTIOXIDANT CREAM - 2 oz Buy 2 jars, price each	69.50 61.16	52.13 45.87		
80107	COSMESIS FINE LINE-LESS - 1 oz Buy 2 bottles, price each	74.50 65.56	55.88 49.17		
80131	COSMESIS HAIR SUPPRESS FORMULA - 4 oz Buy 2 bottles, price each	59.00 51.92	44.25 38.94		
80137	COSMESIS HEALING FORMULA ALL-IN-ONE CREAM - 1 oz Buy 2 jars, price each	53.00 45.43	39.75 34.07		
80115	COSMESIS HEALING MASK - 2 oz Buy 2 bottles, price each	64.50 56.76	48.38 42.57		
80102	COSMESIS HEALING VITAMIN K CREAM - 1 oz Buy 2 bottles, price each	79.50 69.96	59.63 52.47		
80109	COSMESIS HYALURONIC FACIAL MOISTURIZER - 1 oz Buy 2 bottles, price each	58.00 51.04	43.50 38.28		
80110	COSMESIS HYALURONIC OIL-FREE FACIAL MOISTURIZER - 1 oz Buy 2 bottles, price each	58.00 51.04	43.50 38.28		
80138	COSMESIS HYDRATING ANTIOXIDANT FACE MIST - 4 oz Buy 2 bottles, price each	39.95 38.00	29.96 28.50		
80103	COSMESIS LIFTING & TIGHTENING COMPLEX - 1 oz Buy 2 tubes, price each	74.50 65.56	55.88 49.17		
80146	COSMESIS LYCOPENE CREAM - 1 oz jar Buy 2 jars, price each	28.00 25.40	21.00 19.05		
80135	COSMESIS MELATONIN CREAM - 1 oz Buy 2 jars, price each	33.00 27.10	24.75 20.33		
80114	COSMESIS MILD FACIAL CLEANSER - 8 oz Buy 2 bottles, price each	59.00 51.92	44.25 38.94		
80122	COSMESIS NECK REJUVENATING ANTIOXIDANT CREAM - 2 oz Buy 2 jars, price each	64.00 56.32	48.00 42.24		
80111	COSMESIS PIGMENT CORRECTING CREAM - 1/2 oz Buy 2 bottles, price each	74.00 65.12	55.50 48.84		

SUB-TOTAL OF COLUMN 5

No.		Retail Each	Member Each	Qty	Total
80106	COSMESIS REJUVENATING SERUM - 1 oz Buy 2 bottles, price each	\$74.50 65.56	\$55.88 49.17		
80150	COSMESIS RENEWING EYE CREAM - 1/2 oz Buy 2 jars, price each	65.00 57.00	48.75 42.75		
80142	COSMESIS RESVERATROL ANTI-OXIDANT SERUM - 1 oz Buy 2 bottles, price each	46.00 39.00	34.50 29.25		
80112	COSMESIS SKIN LIGHTENING SERUM - 1/2 oz Buy 2 bottles, price each	85.00 74.80	63.75 56.10		
80130	COSMESIS SKIN STEM CELL SERUM - 1 oz Buy 2 bottles, price each	74.00 69.00	55.50 51.75		
80143	COSMESIS STEM CELL CREAM W/ALPINE ROSE - 1 oz jar Buy 2 jars, price each	66.00 58.00	49.50 43.50		
80148	COSMESIS TIGHTENING & FIRMING NECK CREAM - 2 oz jar Buy 2 jars, price each	39.00 35.00	29.25 26.25		
80116	COSMESIS ULTRA LIP PLUMPER - 1/3 oz Buy 2 bottles, price each	64.00 56.32	48.00 42.24		
80101	COSMESIS ULTRA WRINKLE RELAXER - 1 oz Buy 2 bottles, price each	89.95 79.76	67.46 59.82		
80113	COSMESIS UNDER EYE REFINING SERUM - 1/2 oz Buy 2 bottles, price each	74.50 65.56	55.88 49.17		
80104	COSMESIS UNDER EYE RESCUE CREAM - 1/2 oz Buy 2 bottles, price each	74.50 65.56	55.88 49.17		
80129	COSMESIS VITAMIN C SERUM - 1 oz Buy 2 bottles, price each	85.00 74.80	63.75 56.10		
80136	COSMESIS VITAMIN D LOTION - 4 oz Buy 2 bottles, price each	36.00 33.66	27.00 25.25		
80145	COSMESIS VITAMIN E-ESSENTIAL CREAM - 1 oz Buy 2 jars, price each	28.00 26.00	21.00 19.50		
80149	COSMESIS YOUTH SERUM - 1 oz Buy 2 bottles, price each	65.00 57.00	48.75 42.75		
00862	CRAN-MAX® - 500 mg, 60 veg. caps Buy 4 bottles, price each	17.50 15.00	13.13 11.25		
01424	CRAN-MAX® with UTIROSE™ (OPTIMIZED) - 60 veg. caps Buy 4 bottles, price each	18.00 16.00	13.50 12.00		
01529	CREATINE CAPSULES - 120 veg. caps Buy 4 bottles, price each	10.95 9.25	8.21 6.94		
01746	CREATINE WHEY GLUTAMINE POWDER - 454 grams (vanilla) Buy 4 jars, price each	30.00 27.00	22.50 20.25		
01429	CR MIMETIC LONGEVITY FORMULA - 60 veg. caps Buy 4 bottles, price each	39.00 36.00	29.25 27.00		
*33840	CRWAY GREAT GLUCOSE CONTROL CD	98.00	82.00		
**CRWAY	CR WAY OPTIMAL HEALTH PROGRAM SOFTWARE	195.00	195.00		
00407	CURCUMIN® (SUPER BIO) - 400 mg, 60 veg. caps Buy 4 bottles, price each	38.00 35.00	28.50 26.25		
01808	CURCUMIN® w/GINGER & TURMERONES (ADVANCED BIO)-30 softgels Buy 4 bottles, price each	30.00 27.00	22.50 20.25		
01804	CYTOKINE SUPPRESS™ w/EGCG - 30 veg. caps Buy 4 bottles, price each	30.00 27.00	22.50 20.25		
D					
00658	7-KETO® DHEA METABOLITE - 25 mg, 100 caps Buy 4 bottles, price each	\$28.00 24.00	\$21.00 18.00		
01479	7-KETO® DHEA METABOLITE - 100 mg, 60 veg. caps Buy 4 bottles, price each	40.00 36.00	30.00 27.00		

SUB-TOTAL OF COLUMN 6

No.		Retail Each	Member Each	Qty	Total
01640	DHA (VEGETARIAN SOURCED) - 200 mg, 30 veg. softgels Buy 4 bottles, price each	\$20.00 18.00	\$15.00 13.50		
00607	DHEA - 25 mg, 100 tablets (dissolve in mouth) Buy 4 bottles, price each	14.00 11.75	10.50 8.81		
01478	DHEA COMPLETE - 60 veg. caps Buy 4 bottles, price each	48.00 43.20	36.00 32.40		
00335	DHEA - 25 mg, 100 caps Buy 4 bottles, price each	18.00 15.00	13.50 11.25		
00454	DHEA - 15 mg, 100 caps Buy 4 bottles, price each	14.00 12.00	10.50 9.00		
00882	DHEA - 50 mg, 60 caps Buy 4 bottles, price each	19.00 17.00	14.25 12.75		
01689	DHEA - 100 mg, 60 veg. caps Buy 4 bottles, price each	24.00 22.00	18.00 16.50		
01358	DIGEST RC - 30 tablets Buy 4 boxes, price each	19.95 17.00	14.96 12.75		
01272	DIGESTIVE ENZYMES (ENHANCED SUPER) - 100 veg. caps Buy 4 bottles, price each	18.95 16.00	14.21 12.00		
01671	D,L-PHENYLALANINE CAPSULES - 500 mg, 100 veg. caps Buy 4 bottles, price each	18.75 16.00	14.06 12.00		
01540	DMAE BITARTRATE - 150 mg, 200 veg. caps Buy 4 bottles, price each	18.00 15.00	13.50 11.25		
00059	DMG - 125 mg, 60 tablets Buy 4 boxes, price each	22.80 21.00	17.10 15.75		
01570	DNA PROTECTION FORMULA - 60 veg. caps Buy 4 bottles, price each	34.00 32.00	25.50 24.00		
00544	DOG MIX - 100 grams powder Buy 4 jars, price each	19.50 16.00	14.63 12.00		
00321	DR. PROCTOR'S ADVANCED HAIR FORMULA - 2 oz Buy 4 bottles, price each	39.95 32.00	29.96 24.00		
00320	DR. PROCTOR'S HAIR FORMULA SHAMPOO - 8 oz Buy 4 bottles, price each	24.95 22.00	18.71 16.50		
00899	DUAL-ACTION MICRODERMABRASION ADV. EXFOLIATE - 2.4 oz Buy 4 jars, price each	39.95 38.95	29.96 29.21		
E					
01528	ECHINACEA EXTRACT - 250 mg, 60 veg. caps Buy 4 bottles, price each	\$14.35 12.50	\$10.76 9.38		
01498	ENDOTHELIAL DEFENSE™ w/FULL-SPECTRUM POMEGRANATE™ - 60 softgels Buy 4 bottles, price each	56.00 52.00	42.00 39.00		
00997	ENDOTHELIAL DEFENSE™ w/GLISODIN® - 60 veg. caps Buy 4 bottles, price each	54.00 48.00	40.50 36.00		
00625	EPA/DHA (MEGA) - 120 softgels Buy 4 bottles, price each	19.95 18.00	14.96 13.50		
01737	ESOPHAGEAL GUARDIAN (Berry flavor) - 60 chewable tablets Buy 4 bottles, price each	36.00 32.00	27.00 24.00		
01042	EUROPEAN LEG SOLUTION DIOSMIN 95 - 600 mg, 30 veg. tabs Buy 4 bottles, price each	20.00 18.00	15.00 13.50		
01706	EXTRAORDINARY ENZYMES - 60 caps Buy 4 bottles, price each	26.00 24.00	19.50 18.00		
01514	EYE PRESSURE SUPPORT w/MIRTOGENOL® - 30 veg. caps Buy 4 bottles, price each	38.00 34.00	28.50 25.50		

SUB-TOTAL OF COLUMN 7

No.		Retail Each	Member Each	Qty	Total
F					
01054	FACE MASTER® PLATINUM	\$199.00	\$199.00		
00965	FAST-ACTING JOINT FORMULA - 30 caps Buy 4 bottles, price each	39.00 36.00	29.25 27.00		
01717	FAST-C® w/DIHYDROQUERCETIN - 120 veg. tabs Buy 4 bottles, price each	26.00 24.00	19.50 18.00		
20053	FEM DOPHILUS® - 30 caps	25.95	19.46		
20055	FEM DOPHILUS® - 60 caps	39.95	29.96		
01064	FEMMENESSENCE MACAPAUSE® - 120 veg. caps	34.99	26.24		
01728	FERNBLOCK® w/RED ORANGE COMPLEX (ENHANCED) - 30 veg. caps Buy 4 bottles, price each	42.00 38.00	31.50 28.50		
01670	FIBER FOOD CAPS - 200 veg. caps Buy 4 bottles, price each Buy 10 bottles, price each	16.00 14.00 13.00	12.00 10.50 9.75		
00718	FIBRINOGEN RESIST™ - 30 veg. caps Buy 4 bottles, price each	49.00 44.00	36.75 33.00		
01749	FLAX SEED (ORGANIC GOLDEN GROUND) - 14 oz.	11.67	8.75		
01806	FLORASSIST™ PROBIOTIC - 30 liquid veg. caps Buy 4 boxes, price each	33.00 30.00	24.75 22.50		
01439	FOLATE (OPTIMIZED) (L-METHYLFOLATE) 1,000 mcg - 100 veg. caps Buy 4 bottles, price each	28.00 25.00	21.00 18.75		
01641	FOLIC ACID + B12 CAPSULES - 200 veg. caps Buy 4 bottles, price each	10.50 9.50	7.88 7.13		
01544	FORSKOLIN - 10 mg, 60 veg.caps Buy 4 bottles, price each	16.00 14.00	12.00 10.50		
01513	FUCOIDAN w/MARITECH® 926 (OPTIMIZED) - 60 veg. caps Buy 4 bottles, price each	36.00 33.00	27.00 24.75		
00993	FUCOXANTHIN-SLIM™ - 90 softgels Buy 4 bottles, price each	44.00 39.00	33.00 29.25		
G					
00559	GAMMA E TOCOPHEROL/TOCOTRIENOLS - 60 softgels Buy 4 bottles, price each	\$42.00 37.00	\$31.50 27.75		
00759	GAMMA E TOCOPHEROL w/SESAME LIGNANS - 60 softgels Buy 4 bottles, price each	32.00 29.00	24.00 21.75		
01394	(OPTIMIZED) GARLIC - 200 veg. caps Buy 4 bottles, price each	24.95 21.00	18.71 15.75		
01301	GH PITUITARY SUPPORT DAY FORMULA - 120 labs Buy 4 bottles, price each	48.00 44.00	36.00 33.00		
01302	GH PITUITARY SUPPORT NIGHT FORMULA - 120 veg. caps Buy 4 bottles, price each	25.00 22.50	18.75 16.88		
**01228	GINGER FORCE - 60 softgels	31.95	23.96		
01658	GINKGO BILOBA CERTIFIED EXTRACT™ - 120 mg, 365 veg. caps Buy 2 bottles, price each	46.00 43.50	34.50 32.63		
01648	GINKGO EXTRACT 28/7 (SUPER) - 120 mg, 100 veg. caps Buy 4 bottles, price each	29.00 26.50	21.75 19.88		
00756	GLA WITH SESAME LIGNANS (MEGA) - 60 softgels Buy 4 bottles, price each	19.50 18.00	14.63 13.50		
00345	(L) GLUTAMINE CAPSULES - 500 mg, 100 caps Buy 4 bottles, price each	14.95 13.50	11.21 10.13		
00141	(L)-GLUTAMINE POWDER - 100 grams Buy 4 bottles, price each	22.00 20.00	16.50 15.00		
00522	GLUCOSAMINE/CHONDROITIN CAPSULES - 100 caps Buy 4 bottles, price each	38.00 32.00	28.50 24.00		

SUB-TOTAL OF COLUMN 8

Buyers Club Order Form

To order call: 1.954.766.8433 or 1.800.544.4440

No.		Retail Each	Member Each	Qty	Total
G CONTINUED					
01541	GLUTATHIONE, CYSTEINE & C - 100 veg. caps	\$20.00	\$15.00		
	Buy 4 bottles, price each	18.00	13.50		
00314	L-GLUTATHIONE (MEGA) - 250 mg, 60 caps	39.64	29.73		
01731	GLYCEMICPRO™ TRANSGLUCCOSIDASE - 60 veg. caps	48.00	36.00		
	Buy 4 bottles, price each	42.00	31.50		
01669	GLYCINE - 1,000 mg, 100 veg. caps	12.00	9.00		
	Buy 4 bottles, price each	10.80	8.10		
01091	GRAPE EXTRACT w/RESVERATROL (WHOLE) - 60 veg. caps	36.00	27.00		
	Buy 4 bottles, price each	34.00	25.50		
01411	GRAPE SEED EXTRACT w/RESVERATROL & PTEROSTILBENE - 100 mg, 60 veg. caps	36.00	27.00		
	Buy 4 bottles, price each	34.00	25.50		
01604	GREEN COFFEE EXTRACT COFFEENIC® - 200 mg, 90 veg. caps	22.00	16.50		
	Buy 4 bottles, price each	20.00	15.00		
01620	GREEN COFFEE EXTRACT COFFEENIC® - 400 mg, 90 veg. caps	32.00	24.00		
	Buy 4 bottles, price each	28.00	21.00		
00953	GREEN TEA EXTRACT (MEGA) - lightly caffeinated - 100 veg. caps	30.00	22.50		
	Buy 4 bottles, price each	28.00	21.00		
00954	GREEN TEA EXTRACT (MEGA) - decaffeinated - 100 veg. caps	30.00	22.50		
	Buy 4 bottles, price each	28.00	21.00		
01545	GUTSY CHEWY DIGESTIVE (CITRUS FLAVOR) - 8 tablets	11.50	8.63		
01546	GUTSY CHEWY DIGESTIVE (WILD BERRY FLAVOR) - 8 tablets	11.50	8.63		
H					
01074	5 HTP - 100 mg, 60 caps	\$27.95	\$20.96		
01738	HCA (GARCINIA) - 90 veg. caps	16.00	12.00		
	Buy 4 bottles, price each	14.00	10.50		
01393	HEPATOPRO - 900 mg, 60 softgels	50.00	37.50		
	Buy 4 bottles, price each	46.00	34.50		
01435	HOMOCYSTEINE RESIST - 100 caps	24.00	18.00		
	Buy 4 bottles, price each	21.60	16.20		
01527	HUPERZINE A - 200 mcg, 60 veg caps	40.00	30.00		
	Buy 4 bottles, price each	36.00	27.00		
00661	HYDRODERM® - 1 oz	79.95	59.96		
	Buy 2 bottles, price each	65.33	49.00		
I					
*01060	i26® HYPERIMMUNE EGG - 140 grams powder	\$54.99	\$46.75		
01704	IMMUNE MODULATOR W/TINOFEND® - 60 veg. caps	17.00	12.75		
	Buy 4 bottles, price each	15.00	11.25		
00955	IMMUNE PROTECT W/PARACTIN® - 30 veg. caps	29.50	22.13		
	Buy 4 bottles, price each	26.55	19.91		
01049	INNERPOWER™ - 555 grams powder	42.00	31.50		
01674	INOSITOL CAPSULES - 1,000 mg, 360 veg. caps	62.00	46.50		
	Buy 4 bottles, price each	58.00	43.50		
01292	INTEGRA-LEAN® AFRICAN MANGO IRVINGIA - 150 mg, 60 veg. caps	28.00	21.00		
	Buy 4 bottles, price each	24.00	18.00		
01002	IODORAL® - 180 tabs	50.00	37.50		
01677	IRON PROTEIN PLUS - 300 mg, 100 veg. caps	28.00	21.00		
	Buy 4 bottles, price each	26.00	19.50		
01492	IRVINGIA W/PHASE 3™ - 120 veg. caps	56.00	42.00		
	CALORIE CONTROL COMPLEX (OPTIMIZED AFRICAN MANGO)				
	Buy 4 bottles, price each	48.00	36.00		

SUB-TOTAL OF COLUMN 9

No.		Retail Each	Member Each	Qty	Total
J, K					
00056	JARRO-DOPHILUS EPS™ - 60 veg. caps	\$22.95	\$17.21		
01759	JARRO-DOPHILUS EPS™ - 25 Billion - 30 caps	39.95	29.96		
01724	K w/ADVANCED K2 COMPLEX (SUPER) - 90 softgels	30.00	22.50		
	Buy 4 bottles, price each	27.00	20.25		
01600	KRILL HEALTHY JOINT FORMULA - 30 softgels	32.00	24.00		
	Buy 4 bottles, price each	29.00	21.75		
01050	KRILL OIL PHOSPHOMEGA™ - 60 softgels	33.95	25.46		
00316	KYOLIC® GARLIC FORMULA 102 - 200 caps	26.45	19.84		
00214	KYOLIC® GARLIC FORMULA 105 - 200 caps	27.45	20.59		
00789	KYOLIC® RESERVE - 600 mg, 120 caps	27.95	20.96		
L					
01681	LACTOFERRIN (APOLACTOFERRIN) CAPS - 60 caps	\$48.00	\$36.00		
	Buy 4 bottles, price each	44.00	33.00		
01702	LACTOSOLV™ LONG LASTING LACTASE - 30 caps	30.00	22.50		
	Buy 4 boxes, price each	27.00	20.25		
00020	LECITHIN - 16 oz. granules	15.00	11.25		
	Buy 4 jars, price each	12.50	9.38		
01855	LIFE EXTENSION MIX™ - 315 tablets	98.00	73.50		
	Buy 4 bottles, price each	86.00	64.50		
	Buy 10 bottles, price each	69.50	52.13		
01857	LIFE EXTENSION MIX™ W/EXTRA NIACIN - 315 tablets	98.00	73.50		
	Buy 4 bottles, price each	86.00	64.50		
	Buy 10 bottles, price each	69.50	52.13		
01854	LIFE EXTENSION MIX™ - 490 caps	110.00	82.50		
	Buy 4 bottles, price each	98.00	73.50		
	Buy 10 bottles, price each	85.00	63.75		
01856	LIFE EXTENSION MIX™ POWDER - 14.81 oz	98.00	73.50		
	Buy 4 bottles, price each	86.00	64.50		
	Buy 10 bottles, price each	72.00	54.00		
01865	LIFE EXTENSION MIX™ - 315 tablets w/o copper	98.00	73.50		
	Buy 4 bottles, price each	86.00	64.50		
	Buy 10 bottles, price each	69.50	52.13		
01867	LIFE EXTENSION MIX™ W/EXTRA NIACIN 315 tablets w/o copper	98.00	73.50		
	Buy 4 bottles, price each	86.00	64.50		
	Buy 10 bottles, price each	69.50	52.13		
01864	LIFE EXTENSION MIX™ - 490 caps w/o copper	110.00	82.50		
	Buy 4 bottles, price each	98.00	73.50		
	Buy 10 bottles, price each	85.00	63.75		
01866	LIFE EXTENSION MIX™ POWDER - 14.81 oz w/o copper	98.00	73.50		
	Buy 4 bottles, price each	86.00	64.50		
	Buy 10 bottles, price each	72.00	54.00		
01608	LIVER EFFICIENCY FORMULA - 30 veg. caps	18.00	13.50		
	Buy 4 bottles, price each	16.00	12.00		
01639	5-LOX INHIBITOR W/APRESFLEX® - 100 mg, 60 veg. caps	22.00	16.50		
	Buy 4 bottles, price each	20.00	15.00		
01678	L-LYSINE - 620 mg, 100 veg. caps	9.00	6.75		
	Buy 4 bottles, price each	8.00	6.00		
01470	LURALEAN® CAPS SPECIAL PROPOLMANNAN PARTICLE SIZE - 120 veg. caps	28.00	21.00		
	Buy 4 bottles, price each	25.00	18.75		
00455	LYCOPENE EXTRACT (MEGA) - 15 mg, 90 softgels	35.00	26.25		
	Buy 4 bottles, price each	30.00	22.50		

SUB-TOTAL OF COLUMN 10

No.		Retail Each	Member Each	Qty	Total
M					
01885	MACUGUARD™ OCULAR SUPPORT - 60 softgels	\$22.00	\$16.50		
	Buy 4 bottles, price each	19.80	14.85		
01886	MACUGUARD™ OCULAR SUPPORT w/ASTAXANTHIN - 60 softgels	42.00	31.50		
	Buy 4 bottles, price each	38.00	28.50		
01459	MAGNESIUM CAPS - 500 mg, 100 veg. caps	12.00	9.00		
	Buy 4 bottles, price each	10.00	7.50		
01682	MAGNESIUM CITRATE - 160 mg, 100 veg. caps	9.00	6.75		
	Buy 4 bottles, price each	7.50	5.63		
01668	MELATONIN - 300 mcg, 100 veg. caps	5.75	4.31		
	Buy 4 bottles, price each	5.00	3.75		
01083	MELATONIN - 500 mcg, 200 veg. caps	18.00	13.50		
	Buy 4 bottles, price each	16.00	12.00		
00329	MELATONIN - 1 mg, 60 caps	5.00	3.75		
	Buy 4 bottles, price each	4.63	3.47		
00330	MELATONIN - 3 mg, 60 caps	8.00	6.00		
	Buy 4 bottles, price each	6.88	5.16		
01786	MELATONIN TIME RELEASE - 3 mg, 60 veg. tabs	12.00	9.00		
	Buy 4 bottles, price each	11.00	8.25		
00331	MELATONIN - 10 mg, 60 caps	28.00	21.00		
	Buy 4 bottles, price each	24.00	18.00		
00332	MELATONIN - 3 mg, 60 veg. lozenges	8.00	6.00		
	Buy 4 bottles, price each	6.88	5.16		
01734	MELATONIN (Fast Acting Liquid) - 3 mg (Natural Citrus-Van)	12.00	9.00		
	Buy 4 bottles, price each	11.00	8.25		
01787	MELATONIN TIME RELEASE - 300 mcg, 100 veg. tabs	12.00	9.00		
	Buy 4 bottles, price each	11.00	8.25		
01788	MELATONIN TIME RELEASE - 750 mcg, 60 veg. tablets	8.00	6.00		
	Buy 4 bottles, price each	7.00	5.25		
01536	METHYLCOBALAMIN - 1 mg, 60 lozenges (vanilla)	9.95	7.46		
	Buy 4 bottles, price each	8.00	6.00		
01537	METHYLCOBALAMIN - 5 mg, 60 lozenges (vanilla)	32.00	24.00		
	Buy 4 bottles, price each	25.00	18.75		
	Buy 10 bottles, price each	23.00	17.25		
00709	MIGRA-EEZE™ (BUTTERBUR) - 60 softgels	29.50	22.13		
	Buy 4 bottles, price each	26.33	19.75		
01800	MIGRA-MAG w/BRAIN SHIELD™ - 90 veg. caps	22.00	16.50		
	Buy 4 bottles, price each	20.00	15.00		
01522	MILK THISTLE (CERTIFIED EUROPEAN) - 750 mg, 60 veg caps	34.00	25.50		
	Buy 4 bottles, price each	30.00	22.50		
01822	MILK THISTLE (EUROPEAN) - 60 softgels	28.00	21.00		
	Buy 4 bottles, price each	25.00	18.75		
01817	MILK THISTLE (EUROPEAN) - 120 softgels	44.00	33.00		
	Buy 4 bottles, price each	40.00	30.00		
01698	MIRAFORTE w/STANDARDIZED LIGNANS (SUPER) - 120 caps	62.00	46.50		
	Buy 4 bottles, price each	56.00	42.00		
01769	MITOCHONDRIAL BASICS w/BIOPQQ® - 30 caps	52.00	39.00		
	Buy 4 bottles, price each	46.00	34.50		
01768	MITOCHONDRIAL ENERGY OPTIMIZER w/BIOPQQ® - 120 caps	94.00	70.50		
	Buy 4 bottles, price each	84.00	63.00		
00065	MK-7 - 90 mcg, 60 softgels	28.00	21.00		
	Buy 4 bottles, price each	25.00	18.75		

SUB-TOTAL OF COLUMN 11

No.		Retail Each	Member Each	Qty	Total
01279	MOUTHWASH W/POMEGRANATE - 16 oz	\$18.50	\$13.88		
	Buy 4 bottles, price each	17.00	12.75		
00451	MSM (METHYLSULFONYLMETHANE) - 1,000 mg, 100 caps	14.00	10.50		
	Buy 4 bottles, price each	11.95	8.96		
N					
01534	N-ACETYL-L-CYSTEINE - 600 mg, 60 veg. caps	\$14.00	\$10.50		
	Buy 4 bottles, price each	13.50	10.13		
00066	NATTOKINASE - 60 softgels	25.50	19.13		
00891	NATURAL APPETITE CONTROL - 90 softgels	28.00	21.00		
	Buy 4 bottles, price each	25.20	18.90		
01807	NATURAL APPETITE SUPPRESS (ADVANCED) - 60 veg. caps	38.00	28.50		
	Buy 4 bottles, price each	34.00	25.50		
00984	NATURAL BP MANAGEMENT - 60 tablets	42.00	31.50		
	Buy 4 bottles, price each	37.80	28.35		
01692	NATURAL ESTROGEN w/POMEGRANATE EXTRACT - 60 caplets	38.00	28.50		
	Buy 4 bottles, price each	33.00	24.75		
01221	NATURAL FEMALE SUPPORT - 30 veg. caps	28.00	21.00		
	Buy 4 bottles, price each	24.00	18.00		
01471	NATURAL GLUCOSE ABSORPTION CONTROL - 60 veg. caps	39.00	29.25		
	Buy 4 bottles, price each	36.00	27.00		
01626	NATURAL SEX FOR WOMEN® 50+ (ADVANCED) - 90 veg. caps	59.00	44.25		
	Buy 4 bottles, price each	45.33	34.00		
01444	NATURAL SLEEP® - 60 veg. caps	13.00	9.75		
	Buy 4 bottles, price each	10.00	7.50		
01551	NATURAL SLEEP® w/ MELATONIN (ENHANCED) - 30 caps	22.00	16.50		
	Buy 4 bottles, price each	20.00	15.00		
01511	NATURAL SLEEP® w/o MELATONIN (ENHANCED) - 30 caps	20.00	15.00		
	Buy 4 bottles, price each	18.00	13.50		
01445	NATURAL SLEEP® MELATONIN - 5 mg, 60 veg. caps	18.00	13.50		
	Buy 4 bottles, price each	16.00	12.00		
00987	NATURAL STRESS RELIEF - 30 veg. caps	28.00	21.00		
	Buy 4 bottles, price each	24.00	18.00		
01603	NEURO-MAG™ MAGNESIUM L-THREONATE - 90 veg. caps	40.00	30.00		
	Buy 4 bottles, price each	36.00	27.00		
01602	NEURO-MAG™ L-THREONATE w/CALCIUM & VITAMIN D 225 grams - Lemon flavor	40.00	30.00		
	Buy 4 bottles, price each	36.00	27.00		
00373	NO-FLUSH NIACIN - 800 mg, 100 caps	19.00	14.25		
	Buy 4 bottles, price each	17.00	12.75		
O					
01623	OLIVE LEAF VASCULAR SUPPORT - 500 mg, 60 veg. caps	\$22.00	\$16.50		
	Buy 4 bottles, price each	20.00	15.00		
01483	OMEGA 3 EPA/DHA w/SESAME LIGNANS & OLIVE FRUIT EXTRACT (SUPER) - 60 softgels	18.00	13.50		
	Buy 4 bottles, price each	16.00	12.00		
	Buy 10 bottles, price each	14.00	10.50		
01482	OMEGA 3 EPA/DHA w/SESAME LIGNANS & OLIVE FRUIT EXTRACT (SUPER) - 120 softgels	32.00	24.00		
	Buy 4 bottles, price each	28.00	21.00		
	Buy 10 bottles, price each	24.90	18.68		
01484	OMEGA 3 EPA/DHA w/SESAME LIGNANS & OLIVE FRUIT EXTRACT (SUPER) - 120 enteric coated softgels	34.00	25.50		
	Buy 4 bottles, price each	31.00	23.25		
	Buy 10 bottles, price each	28.00	21.00		

SUB-TOTAL OF COLUMN 12

Buyers Club Order Form

To order call: 1.954.766.8433 or 1.800.544.4440

No.		Retail Each	Member Each	Qty	Total
CONTINUED					
01485	OMEGA 3 EPA/DHA W/SESAME LIGNANS & OLIVE FRUIT EXTRACT (SUPER) - 60 enteric coated softgels	\$20.00	\$15.00		
	Buy 4 bottles, price each	18.00	13.50		
	Buy 10 bottles, price each	16.00	12.00		
01619	OMEGA 3 EPA/DHA W/SESAME LIGNANS & OLIVE FRUIT EXTRACT (SUPER) (SMALL SOFTGEL) - 240 softgels	32.00	24.00		
	Buy 4 bottles, price each	28.00	21.00		
	Buy 10 bottles, price each	24.90	18.68		
01632	OMEGA-3 LEMON WHIRL - 16 oz bottle	24.00	18.00		
	Buy 4 bottles, price each	22.00	16.50		
01633	OMEGA-3 TROPICAL WHIRL - 16 oz bottle	24.00	18.00		
	Buy 4 bottles, price each	22.00	16.50		
01801	ONE-PER-DAY - 60 tablets	22.00	16.50		
	Buy 4 bottles, price each	20.00	15.00		
01328	ONLY TRACE MINERALS - 90 caps	15.00	11.25		
	Buy 4 bottles, price each	12.50	9.38		
P					
01789	PALMETTOGUARD™ SAW PALMETTO w/BETA SITOSTEROL -30 softgels	\$15.00	\$11.25		
	Buy 12 bottles, price each	12.00	9.00		
00073	PANCREATIN - 500 mg, 50 caps	13.22	9.92		
01323	PEAK ATP® WITH GLYCO-CARN® - 60 veg. caps	54.00	40.50		
	Buy 4 bottles, price each	50.00	37.50		
00342	PECTA SOL-C® MODIFIED CITRUS PECTIN - 454 grams powder	109.95	82.46		
01080	PECTA SOL-C® MODIFIED CITRUS PECTIN - 270 veg. caps	79.95	59.96		
01811	PEONY IMMUNE - 60 veg. caps	36.00	27.00		
	Buy 4 bottles, price each	32.00	24.00		
00673	PGX™ PLUS MULBERRY (WELLBETX®) -180 caps	34.95	26.21		
00865	PHARMAGABA® - 60 chewable tablets	29.95	22.46		
	Buy 4 bottles, price each	27.00	20.25		
01676	PHOSPHATIDYLSERINE CAPS - 100 mg, 100 veg. caps	54.00	40.50		
	Buy 4 bottles, price each	48.00	36.00		
01390	PHOSPHOMEGA® - 60 softgels	39.95	26.96		
01436	POLICOSANOL - 10 mg, 60 veg. caps	20.00	15.00		
	Buy 6 bottles, price each	15.00	11.25		
01423	POMEGRANATE™ (FULL-SPECTRUM) - 30 softgels	24.00	18.00		
	Buy 4 bottles, price each	21.00	15.75		
00956	POMEGRANATE EXTRACT - 30 veg. caps	19.50	14.63		
	Buy 4 bottles, price each	17.55	13.16		
00957	POMEGRANATE JUICE CONCENTRATE - 16 oz. liquid	30.00	22.50		
	Buy 4 bottles, price each	28.00	21.00		
01797	POMI-T® - 60 veg. caps	33.33	25.00		
	Buy 4 bottles, price each	30.00	22.50		
00577	POTASSIUM IODIDE - 1 box, 14 tablets	6.95	5.21		
	Buy 4 boxes, price each	5.25	3.94		
01500	PQQ CAPS W/BIOPQQ® - 10 mg, 30 veg. caps	24.00	18.00		
	Buy 4 bottles, price each	22.00	16.50		
01647	PQQ CAPS W/BIOPQQ® - 20 mg, 30 veg. caps	40.00	30.00		
	Buy 4 bottles, price each	36.00	27.00		
00302	PREGNENOLONE - 50 mg, 100 caps	26.00	19.50		
	Buy 4 bottles, price each	22.00	16.50		
00700	PREGNENOLONE - 100 mg, 100 caps	30.00	22.50		
	Buy 4 bottles, price each	27.00	20.25		
***01373	PRELOX® NATURAL SEX FOR MEN® - 60 tablets	52.00	39.00		
	Buy 4 bottles, price each	48.00	36.00		

SUB-TOTAL OF COLUMN 13

No.		Retail Each	Member Each	Qty	Total
00525	PROBOOST THYMIC PROTEIN A™ - 4 mcg, 30 packets	\$59.95	\$44.96		
01441	PROGESTACARE FOR WOMEN - 4 oz cream	35.00	26.25		
	Buy 4 bottles, price each	32.00	24.00		
01895	PROSTATE FORMULA (ULTRA NAT) 60 softgels	38.00	28.50		
	Buy 4 bottles, price each	35.00	26.25		
	Buy 12 bottles, price each	32.00	24.00		
01742	PROTEIN-ISOLATE (WHEY) VANILLA - 1 lb. powder	30.00	22.50		
	Buy 4 jars, price each	27.00	20.25		
01743	PROTEIN-ISOLATE (WHEY) CHOCOLATE - 1 lb. powder	30.00	22.50		
	Buy 4 jars, price each	27.00	20.25		
01770	PROTEIN CONCENTRATE (New Zealand Whey) Vanilla - 520 gr	30.00	22.50		
	Buy 4 bottles, price each	26.60	19.95		
01771	PROTEIN CONCENTRATE (New Zealand Whey) Chocolate - 660 gr	30.00	22.50		
	Buy 4 bottles, price each	26.60	19.95		
01812	PROVINAL® PURIFIED OMEGA-7 - 30 softgels	27.00	20.25		
	Buy 4 bottles, price each	24.00	18.00		
01508	PTEROPURE™ - 50 mg Pterostilbene 60 veg. caps	32.00	24.00		
	Buy 4 bottles, price each	30.00	22.50		
01587	PURE PLANT PROTEIN - Veg. Vanilla 540 grams powder	38.00	28.50		
	Buy 4 jars, price each	35.00	26.25		
01209	PUMPKIN SEED EXTRACT (WATER-SOLUBLE) - 60 veg. caps	20.00	15.00		
	Buy 4 bottles, price each	18.00	13.50		
01637	PYCNOGENOL® FRENCH MARITIME PINE BARK EXTRACT -100 mg, 60 veg. caps	64.00	48.00		
	Buy 4 bottles, price each	60.00	45.00		
01217	PYRIDOXAL 5'-PHOSPHATE - 100 mg, 60 veg. caps	22.00	16.50		
	Buy 4 bottles, price each	19.80	14.85		
Q, R					
01309	QUERCETIN (OPTIMIZED) - 250 mg, 60 veg. caps	\$22.00	\$16.50		
	Buy 4 bottles, price each	20.00	15.00		
01030	RED YEAST RICE (Bluebonnet)- 600 mg, 60 veg. caps	16.95	13.56		
00605	REGIMINT - 60 enteric-coated caps	19.95	14.96		
	Buy 4 bottles, price each	18.67	14.00		
01708	REISHI EXTRACT MUSHROOM COMPLEX - 60 veg. caps	30.00	22.50		
	Buy 4 bottles, price each	27.00	20.25		
01448	REJUVENEX® BODY LOTION - 6 oz	24.00	18.00		
	Buy 4 tubes, price each	19.80	14.85		
	Buy 8 tubes, price each	17.00	12.75		
01621	REJUVENEX® FACTOR FIRMING SERUM - 1.7 oz	65.00	48.75		
	Buy 2 bottles, price each	50.66	38.00		
	Buy 6 bottles, price each	38.52	28.89		
01220	REJUVENEX® (ULTRA) - 2 oz	52.00	39.00		
	Buy 2 jars, price each	48.00	36.00		
	Buy 4 jars, price each	44.00	33.00		
	Buy 8 jars, price each	39.93	29.95		
00676	REJUVENIGHT® (ULTRA) - 2 oz	39.95	29.96		
	Buy 4 jars, price each	36.00	27.00		
01413	RESVERATROL W/PTEROSTILBENE - 20 mg, 60 veg. caps	24.00	18.00		
	Buy 4 bottles, price each	22.00	16.50		
01410	RESVERATROL W/PTEROSTILBENE - 100 mg, 60 veg. caps	36.00	27.00		
	Buy 4 bottles, price each	32.00	24.00		
01430	RESVERATROL w/SYNERGISTIC GRAPE-BERRY ACTIVES (OPTIMIZED) - 250 mg, 60 veg. caps	46.00	34.50		
	Buy 4 bottles, price each	41.33	31.00		

SUB-TOTAL OF COLUMN 14

No.		Retail Each	Member Each	Qty	Total
00889	RHODIOLA EXTRACT - 250 mg, 60 veg. caps Buy 4 bottles, price each	\$11.75 10.58	\$8.81 7.94		
00972	(D) RIBOSE POWDER - 150 grams Buy 4 jars, price each	27.50 24.75	20.63 18.56		
01473	(D) RIBOSE TABLETS - 100 veg. tabs Buy 4 bottles, price each	32.00 28.00	24.00 21.00		
01609	RICH REWARDS® BREAKFAST GROUND COFFEE - 12 oz. bag	13.00	9.75		
01729	RICH REWARDS® BREAKFAST BLEND GROUND COFFEE - 12 oz. bag Natural Vanilla	15.00	11.25		
01730	RICH REWARDS® BREAKFAST BLEND GROUND COFFEE - 12 oz. bag Natural Mocha	15.00	11.25		
01610	RICH REWARDS™ DECAFFEINATED ROAST GROUND COFFEE - 12 oz. bag	14.00	10.50		
01809	RICH REWARDS™ DARK CHOCOLATE - 15 piece bag Buy 4 bags, price each	15.00 12.96	11.25 9.72		
01712	RICH REWARDS™ BLACK BEAN VEGETABLE SOUP - 32 oz. bottle Buy 6 bottles, price each	13.00 12.25	9.75 9.19		
01530	RICH REWARDS™ CRUCIFEROUS VEGETABLE SOUP - 32 oz. bottle Buy 6 bottles, price each	11.95 11.25	8.96 8.44		
01531	RICH REWARDS™ (SPICY) CRUCIFEROUS VEGETABLE SOUP - 32 oz. bottle Buy 6 bottles, price each	11.95 11.25	8.96 8.44		
01705	RICH REWARDS™ LENTIL VEGETABLE SOUP - 32 oz. bottle Buy 6 bottles, price each	13.00 12.25	9.75 9.19		
01810	RICH REWARDS™ MUNG BEAN SOUP W/TURMERIC - 32 oz. bottle Buy 6 bottles, price each	13.00 12.25	9.75 9.19		
01208	R-LIPOIC ACID (SUPER) - 300 mg, 60 veg. caps Buy 4 bottles, price each	49.00 45.00	36.75 33.75		
00070	RNA CAPSULES - 500 mg, 100 caps Buy 4 bottles, price each	17.95 16.16	13.46 12.12		
S					
01432	SAFFRON w/SATIAREAL (OPTIMIZED) - 60 veg. caps Buy 4 bottles, price each	\$36.00 32.00	\$27.00 24.00		
00358	SAME (S-ADENOSYL-METHIONINE) - 200 mg, 20 enteric coated tablets Buy 8 boxes, price each	16.00 14.00	12.00 10.50		
00453	SAME (S-ADENOSYL-METHIONINE) - 200 mg, 50 enteric coated tablets Buy 4 bottles, price each	36.00 32.00	27.00 24.00		
00557	SAME (S-ADENOSYL-METHIONINE) - 400 mg, 20 enteric coated tablets Buy 6 boxes, price each	28.00 24.00	21.00 18.00		
01055	SAME (S-ADENOSYL-METHIONINE) - 400 mg, 50 enteric coated tablets Buy 4 bottles, price each	66.00 60.00	49.50 45.00		
01740	SEA-IODINE™ - 1,000 mcg, 60 veg. caps Buy 4 bottles, price each	8.00 7.20	6.00 5.40		
00046	SELENIUM - 2 oz dropper bottle	11.95	8.96		
01679	SE-METHYL L-SELENOCYSTEINE - 200 mcg, 100 veg. caps Buy 4 bottles, price each	12.00 11.00	9.00 8.25		
00318	SERRAFLAZYME - 100 tablets Buy 4 bottles, price each	18.00 16.00	13.50 12.00		
00284	SHARK LIVER OIL (NORWEGIAN) - 1,000 mg, 30 softgels Buy 4 bottles, price each	18.00 16.00	13.50 12.00		
01684	SILYMARIN - 100 mg, 50 veg. caps Buy 4 bottles, price each	9.25 8.25	6.94 6.19		
01596	SKIN RESTORING PHYTCERAMIDES w/LIPOWHEAT® - 30 veg. liquid caps Buy 4 bottles, price each	25.00 23.00	18.75 17.25		
00961	SODZYME® w/GLISODIN® AND WOLFBERRY - 90 veg. caps Buy 4 bottles, price each	28.00 24.00	21.00 18.00		

SUB-TOTAL OF COLUMN 15

No.		Retail Each	Member Each	Qty	Total
00657	SOLARSHIELD SUNGLASSES - 1 pair smoke color Buy 2 pairs, price each	\$12.99 11.50	\$9.74 8.63		
01097	SOY EXTRACT (ULTRA) - 150 veg. caps Buy 4 bottles, price each	87.00 78.00	65.25 58.50		
00432	STEVIA™ EXTRACT (BETTER) - 100 packets, 1 gram each	9.95	7.46		
00438	STEVIA™ ORGANIC LIQUID EXTRACT (BETTER) - 2 oz liquid	11.00	8.25		
01396	ST. JOHN'S WORT EXTRACT - 300 mg, 60 veg. caps Buy 4 bottles, price each	10.98 10.00	8.24 7.50		
01476	STRONTIUM - 750 mg, 90 veg. caps Buy 4 bottles, price each	20.00 18.00	15.00 13.50		
01649	SUPER ABSORBABLE SOY ISOFLAVONES - 60 veg. caps Buy 4 bottles, price each	28.00 25.00	21.00 18.75		
01790	SUPER SAW PALMETTO/NETTLE ROOT W/BETA-SITOSTEROL - 60 softgels Buy 4 bottles, price each Buy 12 bottles, price each	28.00 26.00 24.00	21.00 19.50 18.00		
01778	SUPER SELENIUM COMPLEX - 200 mcg, 100 veg. caps Buy 4 bottles, price each Buy 12 bottles, price each	14.00 12.00 11.00	10.50 9.00 8.25		
T					
01723	TART CHERRY EXTRACT w/STANDARDIZED CHERRYPURE® - 60 veg. caps Buy 4 bottles, price each	\$22.00 20.00	\$16.50 15.00		
00199	TAURINE - 1,000 mg, 50 caps Buy 4 bottles, price each	8.95 8.00	6.71 6.00		
00133	TAURINE POWDER - 300 grams Buy 4 bottles, price each	20.00 16.88	15.00 12.66		
01304	THEAFLAVIN STANDARDIZED EXTRACT - 30 veg. caps Buy 4 bottles, price each	18.00 16.00	13.50 12.00		
01683	(L) THEANINE - 100 mg, 60 veg. caps Buy 4 bottles, price each	24.00 20.50	18.00 15.38		
††01038	THERALAC PROBIOTICS - 30 caps	47.95	35.96		
00668	THYROID FORMULA™ (METABOLIC ADVANTAGE) - 100 caps	21.95	16.46		
00349	TMG POWDER - 50 grams Buy 4 bottles, price each	14.00 11.00	10.50 8.25		
01859	TMG - 1,000 mg, 60 veg. liquid caps Buy 4 bottles, price each	13.00 12.00	9.75 9.00		
00781	TOCOTRIENOLS WITH SESAME LIGNANS - 60 softgels Buy 4 bottles, price each	38.00 36.00	28.50 27.00		
01400	TOCOTRIENOLS (SUPER-ABSORBABLE) - 60 softgels Buy 4 bottles, price each	30.00 28.00	22.50 21.00		
01278	TOOTHPASTE - 4 oz (Mint) Buy 4 tubes, price each	9.50 8.67	7.13 6.50		
01468	TRIPLE ACTION CRUCIFEROUS VEGETABLE EXTRACT - 60 veg. caps Buy 4 bottles, price each	24.00 22.00	18.00 16.50		
01469	TRIPLE ACTION CRUCIFEROUS VEGETABLE EXTRACT W/RESVERATROL - 60 veg. caps Buy 4 bottles, price each	32.00 29.60	24.00 22.20		
01803	TRI SUGAR SHIELD™ - 60 veg. caps Buy 4 bottles, price each	36.00 32.00	27.00 24.00		
01386	TRUFIBER® - 180 grams	32.95	24.71		
01389	TRUFLORA PROBIOTICS - 32 veg. caps	42.95	32.21		
01722	L-TRYPTOPHAN - 500 mg, 90 veg. caps Buy 4 bottles, price each	33.00 30.00	24.75 22.50		
01721	TRYPTOPHAN PLUS (OPTIMIZED) - 90 veg. caps Buy 4 bottles, price each	32.00 29.00	24.00 21.75		

SUB-TOTAL OF COLUMN 16

Buyers Club Order Form

To order call: 1.954.766.8433 or 1.800.544.4440

No.		Retail Each	Member Each	Qty	Total
T CONTINUED					
01816	TWO-PER-DAY - 60 tablets	\$10.50	\$7.88		
	Buy 4 bottles, price each	9.50	7.13		
01815	TWO-PER-DAY - 120 tablets	20.00	15.00		
	Buy 4 bottles, price each	18.00	13.50		
01814	TWO-PER-DAY - 120 caps	22.00	16.50		
	Buy 4 bottles, price each	20.00	15.00		
00326	L-TYROSINE - 500 mg, 100 tablets	12.98	9.74		
V					
00213	VANADYL SULFATE - 7.5 mg, 100 tablets	\$15.00	\$11.25		
	Buy 4 bottles, price each	12.50	9.38		
00408	VENOTONE - 60 caps	18.95	14.21		
	Buy 4 bottles, price each	16.00	12.00		
01327	VINPOCETINE - 10 mg, 100 tablets	18.00	13.50		
	Buy 4 bottles, price each	14.00	10.50		
01526	VITAMIN B3 NIACIN - 1,000 mg, 100 veg. caps	12.75	9.56		
	Buy 4 bottles, price each	12.00	9.00		
00372	VITAMIN B3 NIACIN - 500 mg, 100 caps	7.65	5.74		
	Buy 4 bottles, price each	6.65	4.99		
00098	VITAMIN B5 - 500 mg, 100 caps (Pantothenic Acid)	10.50	7.88		
	Buy 4 bottles, price each	9.38	7.04		
01535	VITAMIN B6 - 250 mg, 100 veg. caps	12.50	9.38		
	Buy 4 bottles, price each	11.00	8.25		
00361	VITAMIN B12 - 500 mcg, 100 lozenges	8.75	6.56		
	Buy 4 bottles, price each	7.25	5.44		
01634	VITAMIN C w/ DIHYDROQUERCETIN - 1,000 mg, 60 tablets	10.00	7.50		
	Buy 4 bottles, price each	9.00	6.75		
00927	VITAMIN C w/ DIHYDROQUERCETIN - 1,000 mg, 250 tablets	25.50	19.13		
	Buy 4 bottles, price each	23.25	17.44		
00084	VITAMIN C (BUFFERED) POWDER - 454.6 grams	23.95	17.96		
	Buy 4 bottles, price each	22.00	16.50		
01736	(EFFERVESCENT) VITAMIN C-MAGNESIUM CRYSTALS - 180 grams	20.00	15.00		
	Buy 4 bottles, price each	18.00	13.50		
01732	VITAMIN D3 - 2,000 IU, 1 fl oz, Mint flavor	28.00	21.00		
	Buy 4 bottles, price each	25.00	18.75		
01753	VITAMIN D3 - 1,000 IU, 90 softgels	7.00	5.25		
	Buy 4 bottles, price each	6.00	4.50		
01751	VITAMIN D3 - 1,000 IU, 250 softgels	12.50	9.38		
	Buy 4 bottles, price each	11.25	8.44		
01713	VITAMIN D3 - 5,000 IU, 60 softgels	11.00	8.25		
	Buy 4 bottles, price each	9.90	7.43		
01718	VITAMIN D3 - 7,000 IU, 60 softgels	14.00	10.50		
	Buy 4 bottles, price each	12.60	9.45		
01758	VITAMIN D3 w/SEA-IODINE™ - 5,000 IU, 60 caps	14.00	10.50		
	Buy 4 bottles, price each	12.50	9.38		
00864	VITAMIN D3 Liquid Emulsion - 2,000 IU, 1 oz.	28.00	21.00		
	Buy 4 bottles, price each	25.00	18.75		
01741	VITAMINS D AND K w/SEA-IODINE™ - 60 caps	24.00	18.00		
	Buy 4 bottles, price each	22.00	16.50		
01763	VITAMIN E (NATURAL) - 400 IU, 100 softgels	30.00	22.50		
	Buy 4 bottles, price each	28.00	21.00		
	Buy 10 bottles, price each	26.00	19.50		
01225	VITAMIN K2 (LOW-DOSE) - 45 mcg, 90 softgels	18.00	13.50		
	Buy 4 bottles, price each	16.00	12.00		

SUB-TOTAL OF COLUMN 17

No.		Retail Each	Member Each	Qty	Total
X					
00409	XYLIWHITE™ MOUTHWASH - 16 oz	\$10.00	\$7.50		
W					
01739	WINTER WELLNESS™ - 60 caps	\$15.00	\$11.25		
	Buy 4 bottles, price each	13.00	9.75		
Z					
01813	ZINC HIGH POTENCY - 50 mg, 90 veg. caps	\$7.95	\$5.96		
	Buy 4 bottles, price each	7.00	5.25		
01561	ZINC LOZENGES - 75 lozenges	9.00	6.75		
	Buy 4 bottles, price each	8.00	6.00		
**01051	ZYFLAMEND® WHOLE BODY - 120 softgels	64.95	48.71		

SUB-TOTAL OF COLUMN 18

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SUB-TOTAL COLUMN	2	
SUB-TOTAL COLUMN	3	
SUB-TOTAL COLUMN	4	
SUB-TOTAL COLUMN	5	
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SUB-TOTAL COLUMN	15	
SUB-TOTAL COLUMN	16	
SUB-TOTAL COLUMN	17	
SUB-TOTAL COLUMN	18	

ORDER TOTALS

Sub-Total A (Sub-total of Columns 1 through 18)	
Postage And Handling (Any size order, continental U.S.)	\$5.50
C.O.D.s (Add \$7 for C.O.D. orders)	
Shipping	
GRAND TOTAL (Must be in U.S. dollars)	

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CITY/STATE/ZIP-POSTAL CODE COUNTRY

PHONE FAX

VISA/MASTERCARD/AMEX/DISCOVER #

EXP. DATE

SIGNATURE

SHIP TO ADDRESS

NAME E-MAIL

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CITY/STATE/ZIP-POSTAL CODE COUNTRY

PHONE FAX

SIGNATURE

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Buyers Club Order Form

To order call: 1.954.766.8433 or 1.800.544.4440

No.	LIFE EXTENSION MEDIA		Retail	Member Price	Qty	Total
33864	THE SUPPLEMENT PYRAMID • by Michael A. Smith, MD	2014	\$24.95	\$18.71		
DPT05	DISEASE PREVENTION AND TREATMENT, EXPANDED FIFTH EDITION (hardcover) Buy 4 books, price each	2014	\$69.95 \$60.00	\$52.46 \$45.00		
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33863	YOU THE OWNERS MANUAL • by Michael F. Roizen, MD & Mehmet C. Oz, MD (paperback)	2014	\$19.99	\$14.99		
33862	I'M TOO YOUNG FOR THIS • by Suzanne Somers	2013	\$26.00	\$19.50		
33835	PHARMOCRACY • by William Faloon Buy 4 books, price each	2011	\$24.00	\$9.60 \$8.00		
33958	THE VITAMIN D SOLUTION • by Michael F. Holick, PhD, MD (paperback)	2013	\$16.00	\$12.00		
33861	THE SOUTH BEACH DIET GLUTEN SOLUTION • Dr. Arthur Agatston	2013	\$25.99	\$19.49		
33860	YOUNG FOR LIFE • by Marilyn Diamond and Dr. Donald Schnell	2013	\$26.99	\$20.24		
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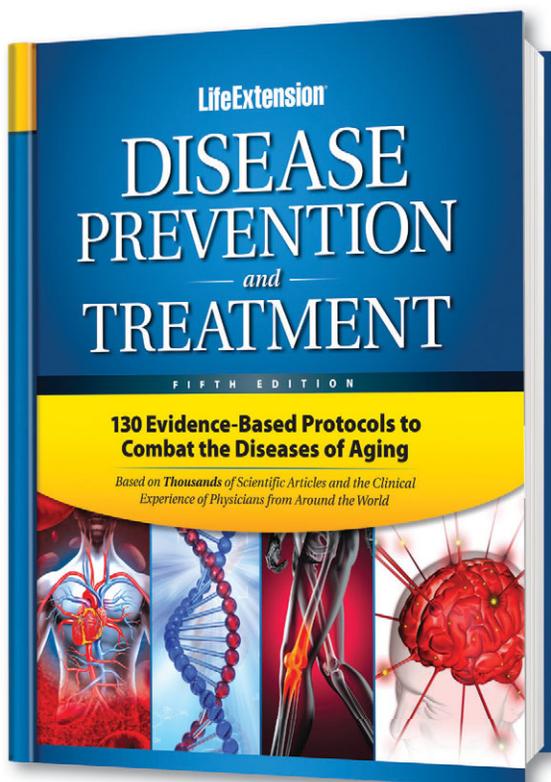
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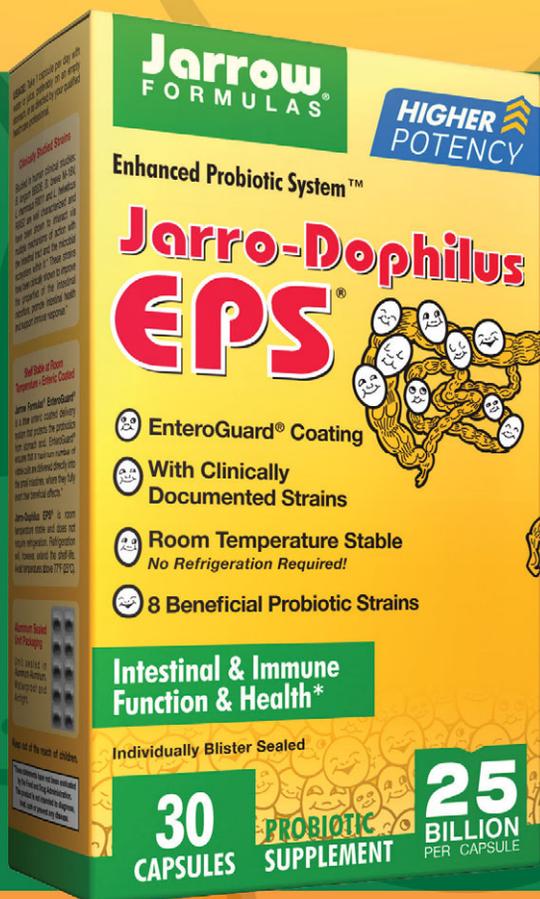
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* Percent of Daily Value based on 2,000 calorie diet.
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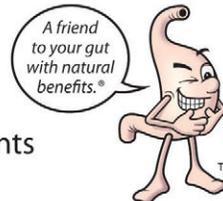


Dr. Doug Haghighi is a Cleveland Clinic trained gastroenterologist and Harvard trained dentist with expertise in diagnosing and treating oral and digestive diseases.

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Members of the Life Extension Foundation pay only **\$8.63** per tube.

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¹Effect of GutsyGum, a novel gum, on subjective ratings of gastro-esophageal reflux following a refluxogenic meal. Submitted to *Journal of Complementary and Integrative Medicine*, Brown, Rachel; Sam, Cecilia H Y; Green, Tim and Wood, Simon

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This **new silybin-phosphatidylcholine** complex is absorbed nearly **5 times better** than silymarin alone, and its concentration in the liver, its target organ, is **10-fold greater** than silymarin alone.⁶⁻⁸

The suggested twice daily dosage of one softgel provides:

Milk Thistle Phospholipid Proprietary Blend	760 mg
Milk Thistle Extract (seed) [std. to 80% silymarin (480 mg), 30% Silybin (180 mg), and 8% Isosilybin A and Isosilybin B (48 mg)], Phospholipids	
SILIPHOS® Phytosome Milk Thistle Extract (seed)	160 mg
[std to 29.7% silybin (47.52 mg)]	

A bottle containing 60 softgels of the new **absorption-enhanced Milk Thistle** retails for **\$28**. If a member buys four bottles, the cost is reduced to only **\$18.75** per bottle—a savings of nearly one third!

This novel Milk Thistle extract with phosphatidylcholine contains standardized concentrations of **silybin** and **isosilybin A** and **B** not found in other milk thistle extracts! Compare the price of **Milk Thistle** to commercial silymarin supplements, and members will see that this new formula is available at one of the **lowest** costs per milligram.

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Reference

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WHAT'S INSIDE

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LifeExtension® Magazine



7 UNSUSTAINABLE DRUG PRICES

A report authored by over **100** oncologists noted that of the twelve new cancer drugs approved in **2012**, eleven were priced above **\$100,000 a year!** These revelations will not surprise **Life Extension®** members, who long ago learned how regulatory **strangle-holds** over drug development inflict harsh economic pain and threaten our national healthcare systems.



26 OMEGA-7 PROTECTS AGAINST METABOLIC SYNDROME

Scientists have uncovered a specific type of **omega-7** that mitigates many of the underlying factors involved in **metabolic syndrome**, especially as it relates to elevated **C-reactive protein**. **Harvard Medical School** has applied for a patent on this unique and natural fatty acid.



38 CoQ10 PROVEN TO SAVE LIVES OF HEART FAILURE PATIENTS

A ten-year study published in the *European Journal of Heart Failure* demonstrated that CoQ10 dramatically improves survival in heart failure patients, lowers mortality from any cause, and reduces risk of a major cardiac event.



50 SAME: BENEFITS BEYOND DEPRESSION

SAME is often just as effective as certain drugs in alleviating depression. New evidence reveals it may protect against Alzheimer's, osteoarthritis, liver disease, and support critical DNA repair.



74 NOVEL PEPTIDES TARGET WRINKLE FORMATION

Scientists have discovered **three peptides** that work within skin cells to inhibit skin aging. Studies show a **28% reversal** in the appearance of deep wrinkles within minutes, with results lasting for months.



82 THE SUPPLEMENT PYRAMID: BUILD A PERSONALIZED NUTRITION REGIMEN

Dr. Michael Smith has designed the three-tiered **Supplement Pyramid** tailored to meet your specific, *personalized* nutritional needs.