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April 2012

Lethal Shortages of Prescription Drugs

Probiotics Alleviate
Common
Discomforts

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Heart Drug

Dietary Glucose
Control Strategy

Protect Yourself in
a Nuclear Emergency

PLUS-

Vitamin D Rejuvenates Aging Eyes

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Item # 00893

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**.

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Eye support is *essential* to preventing age-related vision problems.

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

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

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

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

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40 DIETARY GLUCOSE CONTROL STRATEGY

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64 EUROPEAN HEART DRUG THAT COULD SAVE AMERICAN LIVES

Despite over **40 years** of published studies, a little-known heart drug languishes in regulatory limbo in this country. **Trimetazidine** is available in more than 80 nations around the world. Unlike any other heart drug, *trimetazidine* modulates mitochondrial metabolism to revive compromised heart tissue.

78 IN CASE OF A NUCLEAR EMERGENCY

Japan's recent nuclear disaster released radioactive isotopes that poisoned the country's soil, food, and water. With 104 operating reactors in the US, the next deadly release of nuclear material might occur closer to home. Many of the deaths and illnesses from this nightmare scenario result from exposure to iodine-131 radiation and the thyroid cancers it causes. Fortunately, some protection is available with inexpensive **potassium iodide** tablets.

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The rate of skin cell renewal declines dramatically after age 50. Researchers have found that plant-based stem cells from the **Alpine rose** may *activate* epidermal stem cell activity, eliminating *dryness, sagging, and wrinkles* due to environmental factors.

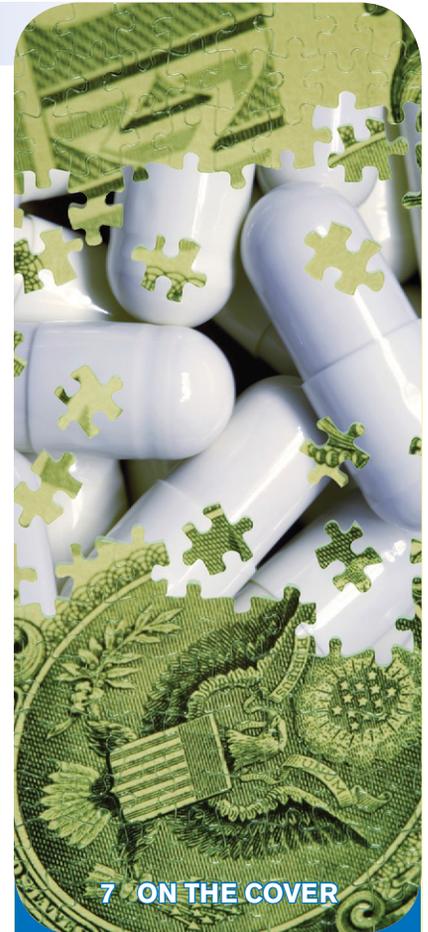
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Olive Leaf

VASCULAR SUPPORT



Many of the validated benefits of the **Mediterranean diet** derive from heart-healthy compounds contained in the **olive fruit**, including the polyphenols **tyrosol** and **hydroxytyrosol**.¹⁻⁴

When it comes to olive's power to **support blood pressure already within a healthy range**, research shows the bioactive compound **oleuropein**⁵⁻⁸ is primarily responsible.

The problem is that optimal amounts of oleuropein are not found in the fruit. The highest concentrations of oleuropein are contained in the **olive leaf**⁹⁻¹³—a part of the plant that is neither readily available nor commonly consumed.

Oleuropein *normally* degrades during standard food processing. For this reason, **Life Extension®** introduces **Olive Leaf Vascular Support**.

Olive Leaf Vascular Support consists of a patented, standardized oleuropein extract using a unique, **gentle-processing** technique.

Researchers using **1,000 mg per day** of this formulation in a double-blind, controlled clinical trial documented an average **11.5-point** (mmHg) decline in *systolic* readings and **4.8-point** drop in *diastolic* readings in just eight weeks.¹⁴

The suggested daily serving of two **500 mg** vegetarian capsules of **Olive Leaf Vascular Support** supplies optimal concentrations of this proprietary, highly stable **oleuropein**, for maximum benefit.

CAUTION: Consult your healthcare provider before taking this product if you are being prescribed anti-hypertensive medication.

A bottle containing **60** vegetarian capsules of **Olive Leaf Vascular Support** retails for \$22. If a member buys four bottles, the price is reduced to **\$15** per bottle.

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To order the new
Olive Leaf Vascular Support
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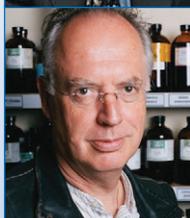
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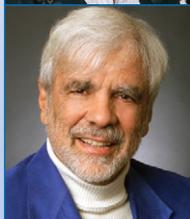
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SAMe FOR BRAIN HEALTH

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 40%**!

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

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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.

LETHAL SHORTAGES



BY WILLIAM FALOON



Sick-care costs are higher in the United States than anywhere else on Earth. Nowhere are profit margins greater for **pharmaceuticals** and nowhere are there more drug **regulations**.

Yet this nation faces critical **shortages of drugs** that conventional medicine needs to keep patients alive.

The crisis has become so dire that panicked government officials have taken unprecedented steps to allow temporary band-aid solutions.

Like the many failed **communist** states that litter this planet, these kinds of problems will not be eliminated until today's broken sick-care system is torn down and replaced.

In this instance, there is no real drug shortage. The scarcity problem exists because of the suffocating impact of inappropriate regulations, which distorts the marketplace and creates artificial shortages aimed at defrauding consumers via outrageous **price gouging**.¹

AS WE SEE IT

Shortages of Lifesaving Medications

Profit margins for prescription drugs are beyond obscene.²⁻⁸ With so much money to be made it is difficult to imagine why there would ever be a “**shortage**” of any prescription drug, let alone the widespread crisis that has emerged.

Federal bureaucrats and politicians, along with hospital and doctors’ groups, are rushing to find solutions for critical shortages of drugs to treat life-threatening illnesses, including bacterial infections and common cancers.⁹

When these drugs are not readily available, the narrow window of time to cure a cancer or eradicate an infection can lapse, resulting in American patients needlessly dying.

By mid-year **2011**, a record-breaking **180** different drugs need-

ed to treat leukemia, solid tumors (like breast and colon cancers), infections, and other diseases had been declared in **short supply**.¹⁰

The impact according to front-line doctors is that patients are in serious jeopardy because they cannot obtain drugs crucial to keeping them alive.

This problem came to light at the end of year **2010**, when four hospital patients were killed because the drugs they needed were not available. Two patients died because the hospital could not get **morphine** and substituted a more powerful drug instead; another died when a drug in short supply (**epinephrine**) had to be diluted so much that it was ineffective. A fourth patient died because they could not get an **antibiotic** to treat their infection.¹¹

This was just the tip of the iceberg as surgery procedures and

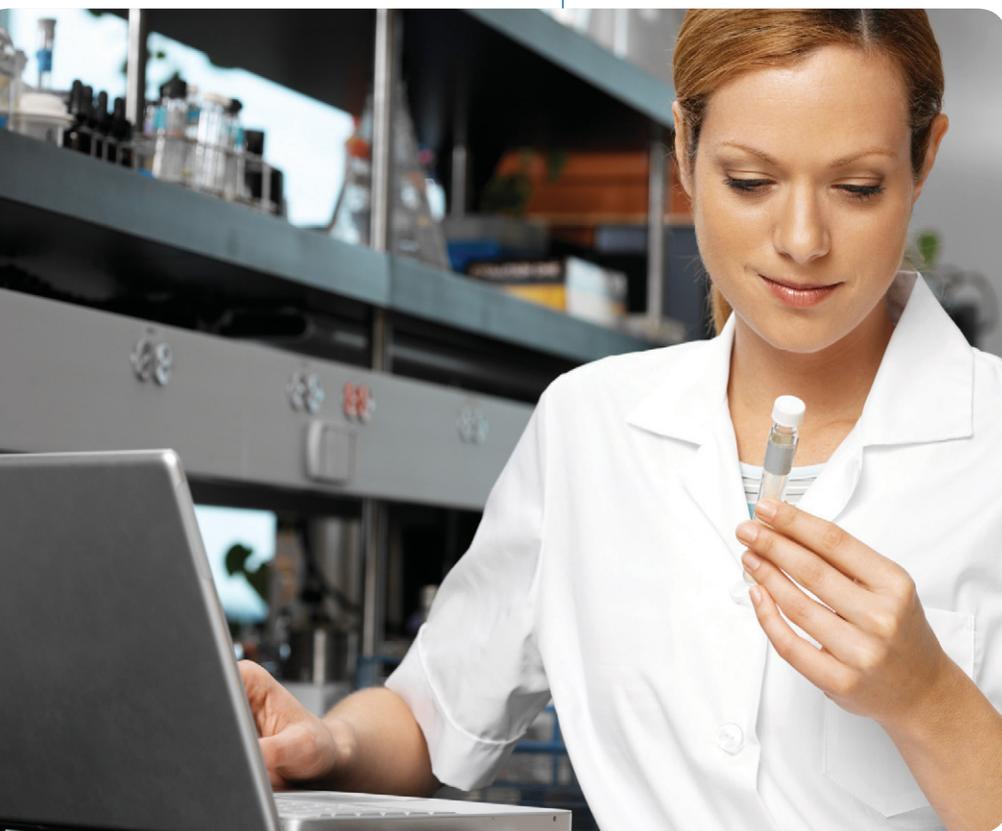
chemotherapy sessions were postponed because necessary drugs were not available. Cancer alone kills **1,500** Americans each day,¹² and whether conventional therapy can effect a cure is highly dependent on the availability of specific medications. In some cases it’s possible to substitute one chemo drug for another, but considering the miserable side effects and mediocre efficacy of these therapies, any changeover reduces the odds of a patient achieving a remission or cure.

Why Are These Shortages Occurring?

The FDA and the pharmaceutical industry are coming up with all kinds of pathetic reasons as to why medications that have been around for decades are all of a sudden not available. They cite shortages of raw materials and quality issues that have closed down manufacturing plants.^{13,14}

Considering that the synthetic compounds that make up most drugs can be mass-produced in virtually limitless quantities, and the huge profit margins inherent with prescription drug manufacturing, these preposterous excuses would be laughable if it were not for the heartbreaking fact that Americans are suffering and dying from the consequences.

The underlying reason for most of these **drug shortages** is pharmaceutical profits. In some cases, soon after a shortage manifests, new supplies become available at prices as much as **20 times higher** than what they were before the “shortage” occurred.¹⁵ In other cases, doctors are forced to use expensive brand-name drugs because the low-cost generics of equivalent efficacy “disappeared” from the market.



Another situation involves pharmaceutical companies “pretending” the costs of making older products no longer justifies producing them, thereby forcing patients onto different and more expensive drugs that may be less effective for the patient.

Seeing Past These Charades

For 32 years, we at **Life Extension®** have been involved in producing thousands of different products, most that require **natural ingredients** that are sometimes in short supply. In almost every instance, we have been able to find the natural ingredient that may have encountered growing problems in certain parts of the world so that our members are not deprived.

When it comes to “costs” of making products that do not sell as well as they used to, we sometimes make only a few thousand bottles a year of an item because some of our members want to continue using it. There is so much surplus manufacturing capacity in the United States, there is never a reason to stop making a lifesaving product because it “costs too much.”

One exception we encountered a while back was with **low-dose aspirin**. Our manufacturer quit making it and it took over a year for the **FDA** to approve a new manufacturer source, even though the new manufacturer had been producing aspirin tablets for decades. We weren’t overly concerned because our members could buy low-dose aspirin from other places. What this real-world example exposed, however, is the absurdity of FDA rules that require companies to jump through all kinds of **regulatory** hurdles to offer a product as simple as aspirin.



Shocking 99.5% of Hospitals Reported Drug Shortages

A survey by the *American Hospital Association* found that **99.5%** of hospitals reported at least one drug shortage and **44%** reported a shortage of **21** or more drugs.¹⁹

This same survey found that **62%** of hospitals delayed treatment and **53%** were not always able to provide patients with the most effective treatment.

Even more shocking were hospitals admitting that **58%** of patients received less than optimal treatment because of the drug shortages and **32%** of patients experienced an adverse outcome (including death).

In another survey of hospital pharmacy directors, an estimated **\$216 million** is spent annually *managing* drug shortages.²⁰ In as much as the drug shortage problem is caused by governmental **over-regulation**, one can see how wasted federal tax dollars are the culprit behind needless deaths and bloated health care costs.

This was not our first problem with the FDA interfering with our ability to sell aspirin. Back in the early **1990s**, we were the first to offer an aspirin formula for the purpose of reducing heart attack risk. We called the product “**First Amendment Aspirin**” because we cited on the label references to published scientific studies showing the ability of low-dose aspirin to reduce heart attack risk.^{16,17} We contended we had the First Amendment right to disseminate

this information to the public. The FDA vehemently disagreed.

The FDA retaliated by threatening our manufacturer with harassing inspections if production of **First Amendment Aspirin** was not halted. Our manufacturer capitulated to FDA censorship, but we succeeded in getting the word out, thus sparing countless numbers of Americans from heart attack. Later studies showed that daily use of low-dose aspirin reduces overall cancer incidence by **20%**.¹⁸

AS WE SEE IT



Government's Proposed Solutions

While there is no logical reason for there to be a **shortage** of any prescription drug (other than the disgusting impact of over-regulation), one solution being proposed is to create a federal government-funded stockpile of crucial cancer medicines. This would require the expenditure of federal tax/debt dollars in an attempt to overcome a problem created by inane **regulations** (also funded with tax/debt dollars).

Another solution Congress is considering is to give the FDA the power to demand that drug makers give early warnings to impending supply disruptions. While this band-aid approach will sometimes work, the FDA lacks the competence to manage the inventory needs of the \$17 billion a year generic drug business.

A group of oncologists has started a non-profit drug company to **import drugs** from other countries.¹⁰ While the FDA considers this illegal, it is unlikely the FDA will stop it. Of course if it were not for the artificial barrier erected against imported drugs, there would be no shortages, as there are ample supplies of these medications in other countries.

Quote from *Journal of the American Medical Association*

“The growing problem of drug shortages is forcing some patients to take *less effective medicines* or to *delay treatments*.”¹⁹

— *JAMA*. September 14, 2011

Since the early **1980s**, the **Life Extension Foundation**[®] has battled Congress and the FDA to allow Americans to import low-cost prescription drugs from Canada and Europe. Pharmaceutical lobbyists prevailed over this logic.

In retaliation, FDA made numerous attempts to destroy our organization and put me in jail.²¹ They did this because we led the charge to allow the importation of medications from other countries. Had it not been for pharmaceutical interests persuading the FDA to embargo imported drugs, this nation would not be facing these lethal **shortages** and the costs of prescription drugs would be a fraction of what they are today.

How Bad Is the Problem?

As of last summer, of **34** generic cancer drugs on the market, **14** were in short supply.^{22,23} These include mainstay treatments to treat leukemia, lymphoma, and testicular cancer. The President of the *American Society of Clinical Oncology* made it clear that doctors know how to cure the majority of these cancers, but patients are virtually helpless without access to these drugs.²⁴

What's happening is that oncologists are being forced to use newer brand-name drugs that don't have a proven cure rate, but can cost **100 times more** than effective generics that have fallen into short supply.



According to one source, only about 10% of drug shortages can be attributed to a lack of ingredients to manufacture the drugs.²² Most shortages are instead the consequence of corporate decisions to cease production, or caused by interruptions in production caused by problems that manufacturers do not appear to be in a rush to fix. In a **free market**, this would not occur, as competition would readily fill the supply gap. But with the FDA deciding who can and cannot make generic drugs, the market is fixed, and those with the right connections can easily game the system to earn enormous profits, even if it means thousands of Americans perishing.

Adding to the problem is the thoroughly corrupt **Medicare Prescription Drug Act of 2003** that added enormous complexities and opportunities for pharmaceutical companies to earn extortionist profits. The creation of drug shortages to gouge consumers was an *inevitable* consequence of this crooked legislation.

Life Extension bitterly fought against passage of the **Medicare Prescription Drug Act** that will cumulatively put over **\$1 trillion** tax/debt dollars into drug company coffers. Congress allowed pharmaceutical lobbyists to prevail over rationality and humanity in passing this corrupt act.

Unintended Consequences of Government Interference

How would you like to be laid up in a hospital, and having the only drug that might save your life come from an obscure wholesaler that could not be trusted to provide an authentic medication?

That's what's happening today as hospital pharmacies receive



Bureaucratic Gibberish and Shortages

The United States has the world's **highest drug prices**, yet simultaneously suffers severe **drug shortages**.

Here is one bureaucratic reason why:

The Medicare Prescription Drug, Improvement, and Modernization Act of 2003 requires Medicare to pay the drug's average selling price, plus 6% for handling. Since it takes a long time for drug companies to compile accurate sales data and also for the government to revise the official average selling price, the result of the Medicare Prescription Drug Act is that prices are kept from increasing by more than 6% every six months.

An unintended consequence of this provision of The Medicare Prescription Drug Act is that it can't adapt quickly enough to rapid drug price changes. By way of example, within a few years after a cancer drug goes generic, its price can drop by as much as 90%. But if a shortage of the active ingredient develops, the drug's price should be able to increase again to attract more manufacturers. Since the Medicare Prescription Drug Act limits drug price increases, it impedes free market pricing from happening, which could cause manufactures to lose money on certain drugs if their cost for the active ingredient exceeds what the government allows them to charge. This is just one bureaucratic reason for today's shortage of lifesaving drugs.²²

Congress has been debating band-aid solutions, which will inevitably create more severe problems over the longer term. One bill introduced would require generic manufacturers to notify the FDA if they expected a supply problem or planned to stop manufacturing a drug. But the FDA isn't able to force manufacturers to produce a drug, so learning about impending shortages is of limited benefit. For instance, early warning by the FDA of a shortage of a particular cancer drug could cause oncologists to start hoarding it, thereby exacerbating the problem.

The only permanent solution to the problems that collectively make up today's **health care cost crisis** is to restore a **free market** environment to medicine—liberated from incompetent and corrupt interferences by Congress and the FDA.

AS WE SEE IT

hundreds of offers from murky wholesalers offering drugs in short supply at prices that are **10 to 20 times** the normal rate.

Such sales may be legal, but the shady reputations of wholesalers who often serve as outlets for counterfeit drugs may be creating the very problem that overbearing *regulations* were enacted to prevent.

I have written before about how artificially-inflated drug prices provide a strong incentive for unscrupulous individuals to counterfeit, how pervasive drug counterfeiting has become in the US, and what little the FDA does to stop it.

With the opportunity to charge up to **20 times more** because of the **artificial shortages** caused by today's **over-regulated** environment, the incentive for prescription drug **counterfeiting** has never been greater.

Another horrific problem with this drug shortage is that clinical trials to evaluate new drugs have been postponed because studies must also offer older medicines that cannot now be reliably provided.

Analogies with Communism

An inherent flaw of communist societies is chronic **shortages** of everything. Communist countries become places of constant long lines, assuming there is anything available worth standing in line for.

Be it an apartment, automobile, food, or medication, the economic inefficiencies of communism invariably results in severe **shortages**.

Despite the proven failure of central government control, Congress nonetheless passed numerous laws that have caused low-cost generic drugs to disappear from the marketplace.

For those who want to read some bureaucratic complexities, the box on the previous page describes one of the absurd regulations behind today's drug shortages.

On the Front Lines Battling Corruption

We live in a world of surplus for most goods and services... with one notable exception.

Despite mediocrity and overpricing, the United States faces an unprecedented shortage of prescription medications. The culprit behind these drug shortages is the **over-regulation** of medicine perpetrated by our political leaders.

On September 1, 2011, my book **Pharmocracy** was released. The purpose in writing **Pharmocracy** was to expose egregious corruption and inefficiencies that are bankrupting the health care system of the United States.





AS WE SEE IT

On **October 15, 1994**, a multi-year effort to “change the law” prevailed when the United States Congress passed the **Dietary Supplement Health and Education Act (DSHEA)**.

Pharmocracy by itself may not result in the law being changed, but it provides common sense logic to do so. The more copies of *Pharmocracy* that members send to their members of Congress, the closer we come to achieving liberation from the FDA’s stranglehold on medical innovation.

So I ask each of you to order four copies (\$8 each) of *Pharmocracy* to send to your members of Congress. It is an important step in a multi-decade campaign to tear down the walls of bureaucracy that deny Americans access to more effective therapies at far lower prices.

Not Enough Members Are Buying *Pharmocracy*

Life Extension expended enormous time and money getting this book out to as many decision makers and concerned citizens as possible. One of our members even donated national airtime for multiple 30-minute airings of an interview I did that explained how important it is for citizens to revolt against a medical establishment that is bankrupting the United States.

We have only sold about **7,000** copies of *Pharmocracy* so far. This is disappointing because my purpose of writing this hardcover book was to enable members to purchase four copies for only **\$8 each** and send one with a personalized letter to their representative and two senators.

The only reason I can think that more of our **170,000 members** have not purchased four copies of *Pharmocracy* is they feared Congress would not pay attention to the irrefutable logic about how to mend today’s broken health care system.

Since **86%** of Americans disapprove of how Congress is doing their job, I can understand the apathy of thinking anything can be done to make our government see logic. But that is no reason to surrender. When the **free**

market reforms advocated in *Pharmocracy* are enacted, it is my firm belief that cures for most of today’s killer diseases will be rapidly brought to market at affordable prices.

I state “when” these reforms are enacted because one way or another, the **free market** approaches I espouse will emerge, since it is mathematically impossible for the federal government to pay for Medicare, Medicaid, and other health care programs it is currently on the hook for.

One unsettling scenario is that seniors may retain their **Medicare** benefits (with much higher co-pays), but few doctors will be willing to accept it because Medicare reimbursements will be substantially cut, or payments to doctors delayed.

Don’t Capitulate to Bureaucrats

When the FDA tried to destroy our organization in the late 1980s, almost every attorney we consulted with told us to **shut down** the Life Extension Foundation. These FDA-expert attorneys said according to the law, we were not allowed to exist. My immediate response was that we had to “**change the law.**” I was universally ridiculed for suggesting that our small organization had the ability to amend federal law.



FDA Admits 'Crisis': Life-saving Leukemia Drug Needed to Treat Children Could Disappear

As this article was being finalized, headline news stories reported that a crucial medicine to treat childhood leukemia is in such short supply that hospitals across the country may soon exhaust their supplies. The horrific result, according to the FDA and oncologists, is that **hundreds and perhaps thousands of children** are at risk of **dying** from a largely curable disease.

The FDA official in charge of the drug shortages program stated the situation is "**dire...supplies are not meeting demand**."

The drug is **methotrexate**, which was first used in the **1950s**. While it's efficacy against solid tumors is mediocre, methotrexate has a high success rate when used to treat **acute lymphoblastic leukemia**, which most often strikes young children. This type of leukemia can quickly kill if not immediately treated.

There is a shortage of injectable preservative free methotrexate because a company making it voluntarily ceased production due to quality-control problems. The three other companies the FDA "allows" to make it have not yet stepped up to the plate to increase production.

FDA is seeking a foreign supplier to provide "emergency imports," something the FDA has long claimed is unsafe for Americans to do on their own.

If it were not for burdensome regulations pertaining to generic drug manufacturing, there would be no shortage of methotrexate, prices would be far lower, and quality higher as companies could not rely on bureaucrats protecting them from free market competition.

Just imagine how bad the quality of automobiles would be if the government erected barriers that severely limited competition?

Stay Healthy So You Don't Need Drugs

Americans needlessly suffer and die because of today's suffocating regulatory quagmire.

The best way to avoid becoming a victim of artificial **drug shortages** is to stay free of disease. Life Extension members should take comfort in knowing that the many steps they take to retain their youthful health dramatically reduces their odds of contracting serious illness.

For longer life,



William Faloon

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Don't Let Drug Companies Steal Your Supplements!

The FDA has proposed **New Dietary Ingredient** guidelines that will enable the agency to ban some of the most effective nutrients Americans take today. Impassioned pleas from some members of Congress have fallen on deaf ears at the FDA. The reason for this is simple. Once disease-preventing nutrients are removed, sales of expensive pharmaceuticals will soar. Drug companies want to turn many of the nutrients you use today into **prescription drugs** that will reap them even more outlandish profits.

Health Care Cost Crisis is a Hoax

There is no real health care cost crisis. It is instead the consequence of **incompetent** and **corrupt** government policies that cause medical costs to be artificially overpriced.

Congress can amend the law to allow **free-market forces** to drive down sick-care costs, better enable prevention of disease, and facilitate rapid discovery of improved therapies.

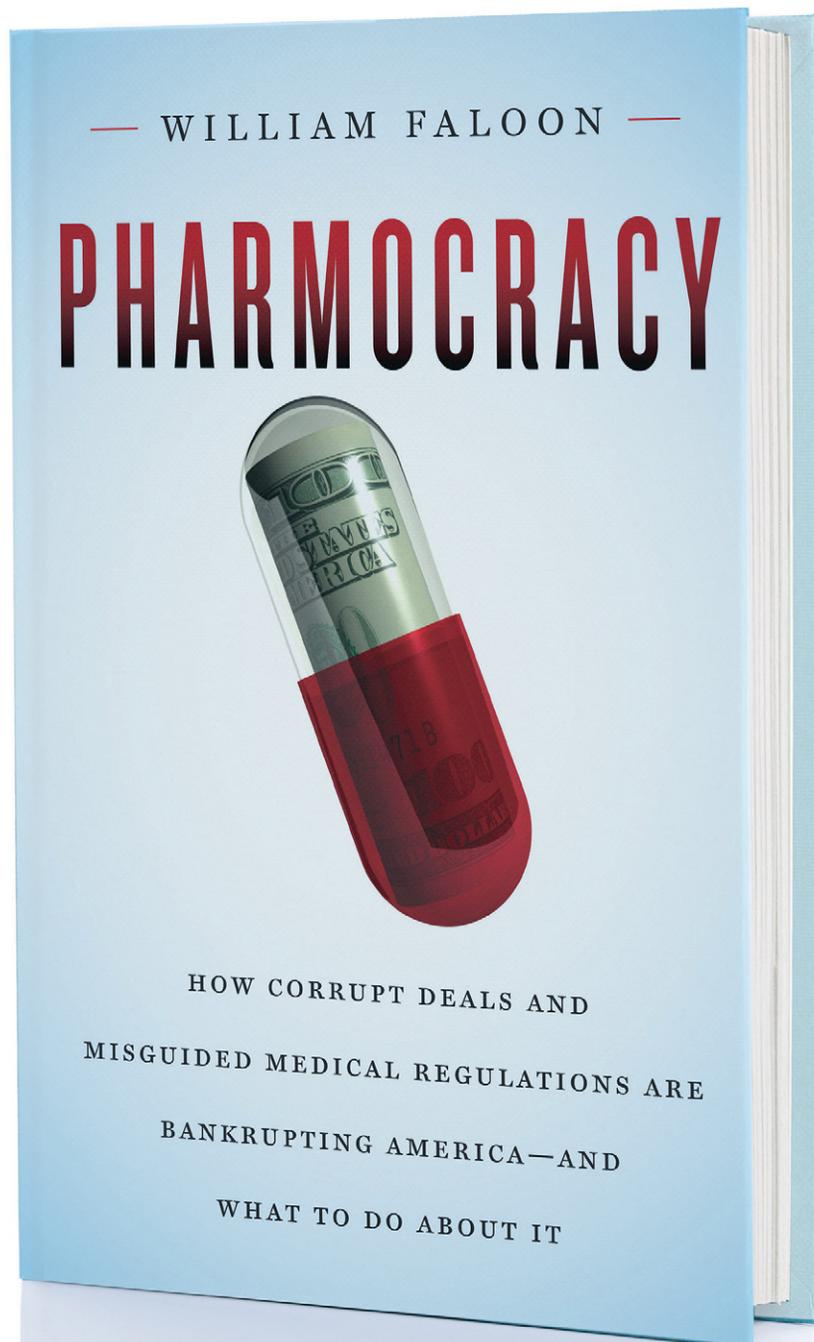
Pharmocracy provides factual documentation to reform the broken health care system that plagues the United States.

Implementing **free-market** approaches described in **Pharmocracy** can spare **Medicare** and **Medicaid** from insolvency while significantly improving the health and productivity of the American public.

Pharmocracy Must Be Sent to More Members of Congress!

The citizenry must unite to demand **Congress** not allow the **FDA** to use its **New Dietary Ingredient** guidelines as a pretext for removing low-cost supplements that have a decades-long track record of proven safety. Sending **Pharmocracy** to more members of Congress will open their eyes to the absurdity of allowing FDA to steal our supplements.

Foundation members can order four hard-cover copies of **Pharmocracy** for only **\$8** each. Send a copy of **Pharmocracy** to your representative and two senators with a letter demanding that they stop the **FDA** from using its proposed New Dietary Ingredient guidelines to take away your supplements.



Item # 33835
Cover price: \$24
Single copy member price: \$9.60
Four copy member price: \$32 (\$8 ea)

To order four or more copies of **Pharmocracy** for only **\$8** each, call **1-800-544-4440** or visit **www.lef.org/pharm** today.

Restore
Cellular
Energy
with...

NEXT-GENERATION

COQ10

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

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

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

The primary reason people take CoQ10 supplements is to help restore youthful energy levels.

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

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

Combining **ubiquinol CoQ10** with **shilajit** generates a powerful *synergy* that supports more youthful cellular energy production than CoQ10 alone.^{2,4,5}

Super Ubiquinol CoQ10 with Enhanced Mitochondrial Support™



Item # 01426

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



Item # 01425

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



Item # 01431

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

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

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



Ratings based on results of the 2012 ConsumerLab.com Survey of Supplement Users. More information at www.consumerlab.com.

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

Most Popular DHEA Dosages



DHEA is a critically important hormone, but its production declines sharply as we age. Scientists are discovering numerous health benefits when aging people restore their DHEA to youthful ranges. Life Extension offers a wide range of DHEA supplements to satisfy individual needs.



Item #00335

DHEA 25 mg, 100 Capsules

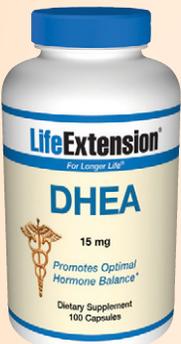
The minimum dose of DHEA for most healthy aging people is 25 mg a day, though optimal doses are often higher in men. These 25 mg capsules are a popular way to consume the precise amount of DHEA your body may need. A bottle containing 100 **25 mg** capsules of **DHEA** retails for \$15; if a member orders four, the price is reduced to just **\$9.38 per bottle**.
Contains rice.



Item #00882

DHEA 50 mg, 60 Capsules

The optimal daily dose of DHEA for most people is 50 mg. These economical 50 mg capsules enable most people to conveniently consume the optimal dose of DHEA in just one capsule. A bottle containing 60 **50 mg** capsules of **DHEA** retails for \$16; if a member orders four bottles, the price is reduced to just **\$10.50 per bottle**.
Contains rice.



Item #00454

DHEA 15 mg, 100 Capsules

While published studies show the greatest benefit occurs when 50-75 mg of DHEA is consumed each day, some women only need a low dose of DHEA. Just one of these 15 mg capsules a day is all some women need to bring DHEA levels back to youthful levels. A bottle containing 100 **15 mg** capsules of **DHEA** retails for \$12; if a member orders four bottles, the price is reduced to just **\$7.50 per bottle**.



Item #00607

DHEA 25 mg, 100 Dissolve-in-Mouth Tablets

A bottle containing 100 **25 mg dissolve-in-mouth** tablets of **DHEA** retails for \$14; if a member orders four bottles, the price is reduced to just **\$8.81 per bottle**.

Some people want to take DHEA in sublingual tablet form to avoid first pass through the liver, though published studies show that swallowing DHEA capsules consistently boosts blood DHEA levels.
Contains corn

CAUTION: Do not use DHEA if you are at risk for or have been diagnosed as having any type of hormonal cancer, such as prostate or breast cancer.

To order the **DHEA** supplement that's right for you, call **1-800-544-4440** or visit **www.LifeExtension.com**

High Potency **FAT-SOLUBLE** NUTRIENTS in ONE Softgel

Most people don't get enough oil-based nutrients like **vitamin K**, **lycopene**, and **gamma tocopherol**. This problem is solved with a one-per-day softgel called Life Extension® **Super Booster**. It provides high potencies of **fat-soluble** compounds lacking in dry powder formulas, along with other nutrients.

Just one **SUPER BOOSTER** provides:

- **VITAMIN K2** Scientific studies show **vitamin K2** provides superior benefits for the bones, arteries, and other tissues. The **MK-4** form of vitamin K2 is the most rapidly absorbed and is now routinely used in Japan to maintain healthy bone density. **MK-4**, however, only remains active in the blood for a few hours. The **MK-7** form of K2, on the other hand, remains bioavailable to the human body over a sustained **24-hour period**. Super Booster provides a potent dose of **MK-7 and MK-4** to keep calcium in the bone and out of the arteries.

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

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



Item # 01680

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

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

- **CHLOROPHYLLIN** Scientific studies indicate that chlorophyllin may protect against environmentally induced damage to DNA.

JUST ONE SOFTGEL OF SUPER BOOSTER SUPPLIES:

Vitamin K2 (as menaquinone-7)	200 mcg	Chlorophyllin	100 mg
Vitamin K2 (as menaquinone-4)	1000 mcg	Sesame lignans	20 mg
Vitamin K1 (as phytonadione)	1000 mcg	Lycopene	10 mg
Mixed tocopherols	359 mg	Lutein	2 mg
(providing Gamma Tocopherol 230 mg)		Vitamin B12	300 mcg
Ginkgo extract	120 mg	Vitamin C	95 mg

A bottle of 60 **Super Booster** softgels retails for \$42. If a member buys four bottles, the price is reduced to just **\$28.50** per bottle.

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

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

Contains soybeans, corn and sesame.

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

Tomat-O-Red® is a registered trademark of LycoRed, Ltd.

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.



IN THE NEWS

Vitamin B12 and Folic Acid Improve Memory in Two Year Trial

The *American Journal of Clinical Nutrition* published the results of an analysis of a trial which found that supplementation with folic acid and vitamin B12 improved immediate and delayed memory in older men and women.*

The study analyzed data from a trial of 900 participants with elevated psychological distress who received 400 micrograms of folic acid plus 100 micrograms vitamin B12, or a placebo for two years. Cognitive function was assessed at the beginning of the study and at 12 and 24 months.

While orientation, attention, verbal memory and processing speed remained unchanged, greater improvements from baseline in immediate and delayed recall scores were observed among those who received vitamin B12 and folic acid compared with the placebo group. "The prospect of using dietary supplements of folic acid and vitamin B12 to prevent cognitive decline appears promising," the authors conclude.

Editor's Note: The original trial was designed to analyze the effect of the supplements and other factors on depressive symptoms. Late-life depression is a risk factor for cognitive impairment.

—D. Dye

* *Am J Clin Nutr.* 2012 Jan;95(1):194-203.

Higher Plasma Nutrient Levels Associated with Increased Brain Volume

In an article published online in the journal *Neurology*, Gene Bowman, ND, MPH, and his colleagues report a beneficial effect on brain volume for healthy dietary patterns as reflected by plasma nutrient levels in older men and women.*

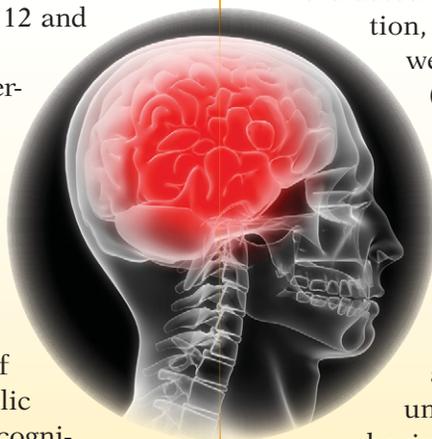
One hundred four participants who had few risk factors for cognitive impairment were tested for 30 nutrient biomarkers. All subjects were evaluated for memory and cognitive function, and 42 participants also underwent magnetic resonance imaging (MRI) scans to assess brain volume, which frequently declines with aging.

While a pattern of high plasma levels of vitamins B1, B2, B6, B12, C, D, and E, and folate, or high plasma marine omega-3 fatty acids were each associated with greater brain volume and better cognitive function, having an increased plasma level of trans fat was associated with reductions in both brain volume and test scores.

Editor's Note: The researchers attribute 17% of the variation in cognitive test scores and 37% of the variation in brain size to nutrient status.

—D. Dye

* *Neurol.* 2011 Dec 28.



Fish Oil May Hold Key to Leukemia Cure

Researchers from Pennsylvania State University have stated that a compound produced from fish oil that appears to target leukemia stem cells could lead to a cure for the disease.* The compound, delta-12prostaglandin J3, or D12-PGJ3, targeted and killed the stem cells of chronic myelogenous leukemia, or CML, in mice, said Sandeep Prabhu, associate professor of immunology and molecular toxicology in the Department of Veterinary and Medical Sciences. The compound is produced from EPA, and omega-3 fatty acid found in fish and fish oil.

The experiments involved researchers injecting mice with leukemia with about 600 nanograms of D12-PGJ3 each day for a week. Tests showed that the mice were completely cured of the disease and the disease did not relapse.

“Research in the past on fatty acids has shown the health benefits of fatty acids on cardiovascular system and brain development, particularly in infants, but we have shown that some metabolites of omega-3 have the ability to selectively kill the leukemia-causing stem cells in mice,” Prabhu said. “The important thing is that the mice were completely cured of leukemia with no relapse.”

—J. Finkel

* Available at: www.medicalnewstoday.com/releases/239662.php. Accessed January 20, 2012.

Higher Vitamin D Levels Correlated with Less Depression

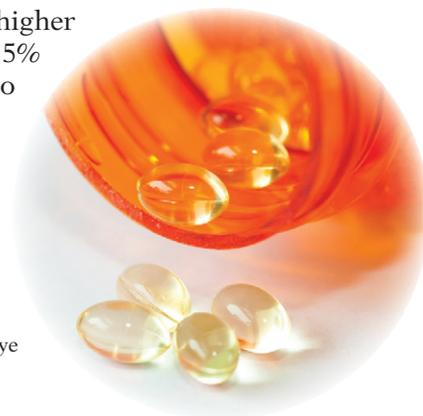
Mayo Clinic Proceedings published the results of a study conducted by the University of Texas Southwestern Medical Center which uncovered a protective effect for high serum vitamin D levels against depression. The study, which included 12,594 men and women, is the largest of its kind to date.*

E. Sherwood Brown and his associates analyzed data from participants in the Cooper Center Longitudinal Study, which enrolled patients from the Cooper Clinic from 2006 to 2010. Dr. Brown’s team found a significant association between higher vitamin D levels and a decreased risk of depressive symptoms, especially among those with a history of depression. For those without a history of depression, having a higher vitamin D level was associated with a 5% lower risk of the condition compared to having a low level, while among those with a history of depression, the risk for those with a high level was 10% lower.

Editor’s Note: Vitamin D’s impact on neurotransmitters, markers of inflammation and other factors could be behind its ability to reduce depression according to Dr. Brown.

—D. Dye

* *Mayo Clin Proc.* 2011 Nov;86(11):1050-5.



Are You Among the One Percent?

The American Heart Association (AHA) journal *Circulation* reports dismal findings for Americans in regard to their cardioprotective behaviors. In fact, less than 1% of a large sampling of adults had an ideal prevalence of all of the seven factors examined in the current study.*

Christina M. Shay, PhD, and her associates evaluated data from 14,515 men and women enrolled in the 2003 to 2008 National Health and Nutrition Examination Surveys. The researchers rated as “poor,” “intermediate” or “ideal” the following components outlined in the American Heart Association’s 2020 Strategic Impact Goals: smoking status, body mass index, physical activity level, Healthy Diet Score components, total cholesterol, blood pressure, and fasting blood glucose. Smoking status was the component most consistently rated as ideal among the participants and having a Healthy Diet Score was the most poorly rated component. Fewer than 1% of the subjects were rated as ideal for all seven factors.

Editor’s Note: “The fact that all components of cardiovascular health are modifiable through treatment and lifestyle should generate optimism for the new strategic directions for the AHA in its research, clinical, public health, and advocacy programs for cardiovascular health promotion and disease prevention,” the authors conclude.

—D. Dye

* *Circulation.* 2012 Jan 3;125(1):45-56.



Omega-3 Improves Peripheral Nerve Injury Recovery

In the *Journal of Neuroscience*, researchers at Queen Mary University of London report that omega-3 polyunsaturated fatty acids may help protect peripheral nerves from injury and stimulate recovery.

Adina Michael-Titus and her associates utilized normal mice or mice bred to express a gene that results in an increase in endogenous omega-3 polyunsaturated fatty acids accompanied by a decrease in omega-6 fatty acids. Individual peripheral nerve cells derived from both types of mice were mechanically injured or deprived of oxygen and assessed for viability.

Nerve cells derived from mice that had higher omega-3 levels had significantly more protection from either type of injury compared to cells derived from normal mice. When animals from each group underwent injury to their sciatic nerves, those in the modified group experienced greater functional recovery after one week and less muscle atrophy in comparison with the normal mice.

Editor's Note: Damage to the peripheral nerves can cause symptoms ranging from pain to paralysis, and recovery is often limited.

—D. Dye

* *J Neurosci.* 2012 Jan 11;32(2):563-71.

Vitamin D Rejuvenates Aging Eyes in Laboratory Study

An article published in the journal *Neurobiology of Ageing* reports an eye-rejuvenating benefit for a short course of vitamin D supplementation in aged mice.*

Professor Glen Jeffery and his associates at University College London supplemented old mice with vitamin D3 for six weeks, while an untreated group served as controls. In addition to improved vision, the team found a reduction in number and changes in the configuration of retinal macrophages—immune cells that can sometimes cause excessive inflammatory damage—in animals that received the vitamin, as well as a decrease in retinal amyloid beta accumulation, which is a marker of aging. In humans, inflammation and amyloid beta accumulation are associated with an increased risk of age-related macular degeneration, a leading cause of blindness. Further experimentation revealed a decrease in amyloid beta build-up in the animals' blood vessels, including the aorta, which is the major vessel that carries blood from the heart.

Editor's Note: "Finding that amyloid deposits were reduced in the blood vessels of mice that had been given vitamin D supplements suggests that vitamin D could be useful in helping to prevent a range of age-related health problems, from deteriorating vision to heart disease," Dr. Jeffery's noted.

—D. Dye

* *Neurobiol Aging.* 2012 Jan 2.



Magnesium Tied to Lower Stroke Risk

A recent article published in the *American Journal of Clinical Nutrition* online states that dietary magnesium intake is associated with a decreased risk of stroke, specifically ischemic stroke.* A dose-response meta-analysis was conducted by researchers, who summarized the evidence in terms of magnesium intake and its association with stroke risk.

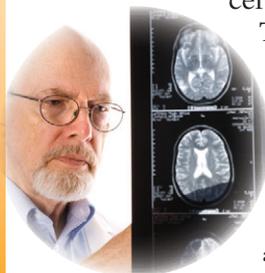
Those conducting the study searched PubMed and EMBASE from January 1966 through September 2011 and ultimately included 7 prospective studies, with 6,477 cases of stroke and 241,378 participants eligible for inclusion in the meta-analysis.

The researchers concluded that an intake increment of 100 milligrams per day of magnesium was associated with an 8% reduction in risk of total stroke. They also found that magnesium intake was associated with a lower risk of ischemic stroke, but not intracerebral hemorrhage or subarachnoid hemorrhage.

This study shows how relatively small doses of magnesium (100 milligram increased daily intakes) can protect against stroke. Most Life Extension members take over 400 milligrams each day of various forms of magnesium.

—J. Finkel

* Available at: www.ajcn.org/content/early/2011/12/26/ajcn.111.022376. Accessed January 20, 2012.



Contribute to a Groundbreaking Literary Event:

Health Choices: Markets or Government Failure

To be written by John C. Goodman, PhD, Research Fellow,
The Independent Institute President, National Center for Policy Analysis

“Forget everything you know about health care for a moment. I want to introduce you to a new way of thinking about it. Our health care system is an example of what social scientists call ‘complex systems.’ These systems are so complicated that no one person or group can ever fully grasp everything that is going on. As individuals, all we ever really see is a small slice of the system. That’s usually the part of it that we interact with. In this regard, the economy as a whole is an example of a complex system. At one point, leaders in the Soviet Union thought they could understand enough about their country’s entire economy that they could manage it all from a central command post. Today, even the Russians admit they were dead wrong. We need to face up to this same reality and give up trying to have government centrally plan health care for America.”

—John C. Goodman

Health care is one of America’s biggest and most serious problems. It is the principal cause of the out-of-control federal deficit, and it is bankrupting cities, counties, and state governments. It has created huge, unfunded liabilities for some of the largest corporations. It is contributing to the stagnation in worker take-home pay. It can potentially bankrupt the families of individuals who have the misfortune to become ill. This prospective book project by the renowned health-care economist John Goodman is about why we have these problems and what can be done now about them. This authoritative new study shows that all of

these problems arise because we are trapped in a dysfunctional, bureaucratic system of perverse incentives to do things that cause the cost of care to be higher, the quality of care to be lower, and access to care more difficult. Perverse incentives are faced by everyone: patients, doctors, nurses, hospital administrators, employees, and employers. As anyone interacts with the system, we see things we could individually do to avoid waste and make care less expensive, but the system generally penalizes for doing the right things and rewards for doing the wrong things.

The prospective book *Health Choices* will address health care in depth to show how to let people out of the bureaucratic trap by allowing them to have alternatives with better incentives through markets. This message is precisely the opposite of the conventional view that we have “too much freedom,” not too little. This book will differ from all other books on health policy because Dr. Goodman has the training and track record to command attention. He regularly writes on health policy for such publications as *the Wall Street Journal*, *Investor’s Business Daily*, *National Review*, and *Health Affairs*.

Life Extension has already provided funding to help initiate this project. If you would like to provide further support for this project, contact Ms. Sarah Tarvin, Development Manager, The Independent Institute, at 510-632-1366 x152 or visit www.independent.org/donate/

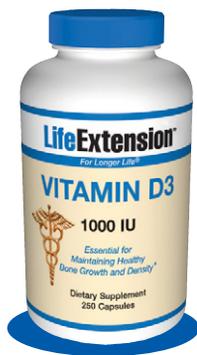


Which VITAMIN D is Right for You?

Study after study confirms the vital importance of maintaining optimal levels of **vitamin D** for broad-spectrum health benefits. Research often indicates that a blood level of 50 ng/mL of **25-hydroxyvitamin D** is ideal.

Because people have individual requirements, Life Extension® has created the largest selection of **vitamin D** supplements available 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 formula.



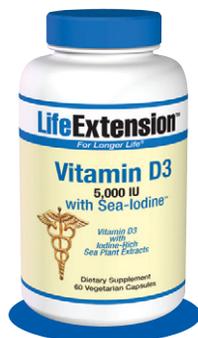
Vitamin D3 1,000 IU 250 capsules

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 this 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 # 00251

Please refer to website for allergen information.



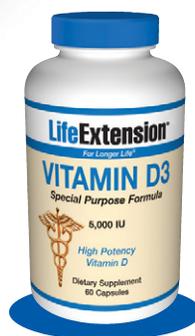
Vitamin D3 5,000 IU with Sea-Iodine™* 60 vegetarian capsules

Retail: \$14
Four-bottle
Member Price: **\$9.38 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.

Item # 01372

Please refer to website for allergen information.



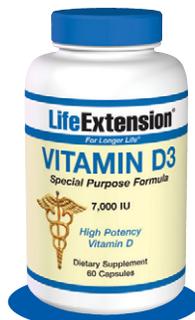
Vitamin D3 5,000 IU 60 capsules

Retail: \$11
Four-bottle
Member Price: **\$7.43 ea.**

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

Item # 00713

Please refer to website for allergen information.



Vitamin D3 7,000 IU 60 capsules

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

Item # 01418

Please refer to website for allergen information.



Vitamin D3 Liquid Emulsion 2,000 IU 1 ounce

Retail: \$28
Four-bottle
Member Price: **\$18.75 ea.**

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

Item # 00864

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

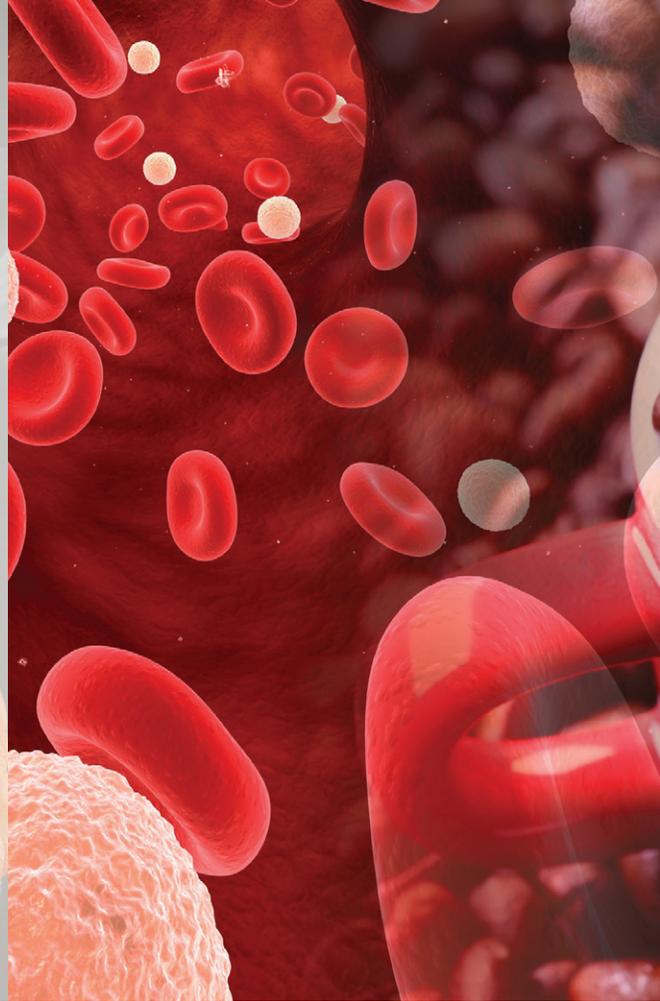
CAUTION: Individuals consuming more than 2,000 IU/day of vitamin D (from diet and supplements) should periodically obtain a serum 25-hydroxyvitamin D measurement. Do not exceed 10,000 IU per day unless recommended by your doctor. Vitamin D supplementation is not recommended for individuals with hypercalcemia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

cal conditions (such as hyperparathyroidism or sarcoidosis), and those who use cardiac glycosides (digoxin) or thiazide diuretics should consult a physician before using supplemental vitamin D.

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



**Breakfast Blend
and
Decaffeinated Roast**



Rich Rewards Polyphenol-Retained Coffee

The Healthy Gourmet Choice

Not all coffee provides the same powerful protection.¹⁻¹³

When it comes to obtaining coffee's full range of health benefits, *most people aren't getting their money's worth!*

The reason? Most of the coffee bean's polyphenol content is **destroyed** during the roasting process required to create a dark, rich blend.

Among the most beneficial of these polyphenols is **chlorogenic acid**, a potent antioxidant that promotes optimal health.

A Patented Organic Roast

Life Extension®'s **Rich Rewards Breakfast Blend** and **Decaffeinated Roast** are made using a patented, 100% natural process called **HealthyRoast™**. It delivers a more complete nutritional profile of the coffee bean, yielding **chlorogenic acid** levels *far greater* than other premium brands.

Handpicked deep in the rainforests of Central America, **Rich Rewards** consists exclusively of **100% certified USDA organic arabica** coffee beans, gently roasted in small batches and ground for easy brewing.

Comparison of Conventional Coffee to Life Extension's Rich Rewards Blend

	Chlorogenic Acid		Chlorogenic Acid
Conventional Coffee (Caffeinated)	92 mg	Rich Rewards Coffee Blend (Caffeinated)	172 mg
Conventional Coffee (Decaffeinated)	52 mg	Rich Rewards Coffee Blend (Decaffeinated)	132 mg

This chart shows Life Extension's **Rich Rewards Breakfast Blend** contains up to **87% more chlorogenic acid** than conventional caffeinated coffees and the **Rich Rewards Decaffeinated Roast** contains up to **154% more chlorogenic acid** than conventional decaffeinated coffees. This enables one to obtain the benefits of heavy coffee drinking in about half the number of cups.



Savory Taste Without Stomach Upset

Have you given up coffee because it upsets your stomach? With **Rich Rewards**, you can enjoy coffee again. The **HealthyRoast™** process also preserves special, naturally occurring compounds in coffee that soothe your stomach.

Concerned about caffeine but don't like the weak taste of decaffeinated coffee? With **Rich Rewards Decaffeinated Roast**, you can limit your caffeine intake without compromising on flavor. The caffeine is removed through a completely chemical-free **Water Process**, which relies solely on water and carbon filters. It delivers the full flavor, aroma, and body of the *arabica* bean.

Life Extension®'s **Rich Rewards** coffees give you a uniquely beneficial brew with superior flavor. The **Rich Rewards Breakfast Blend** contains up to **87% more chlorogenic acid** than conventional caffeinated coffees. **Rich Rewards Decaffeinated Roast** contains up to **154% more chlorogenic acid** than conventional decaffeinated coffees.

To order either of the Rich Rewards Antioxidant Coffees call 1-800-544-4440 or visit www.LifeExtension.com

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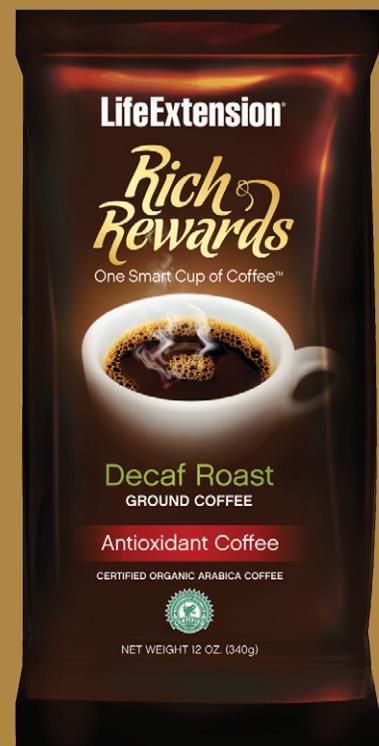
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* US Patent 6,723,368.



Item # 01609

A 12 oz bag of Life Extension® Rich Rewards Breakfast Blend retails for \$13. Members pay only **\$9.75** per bag. Item # 01609



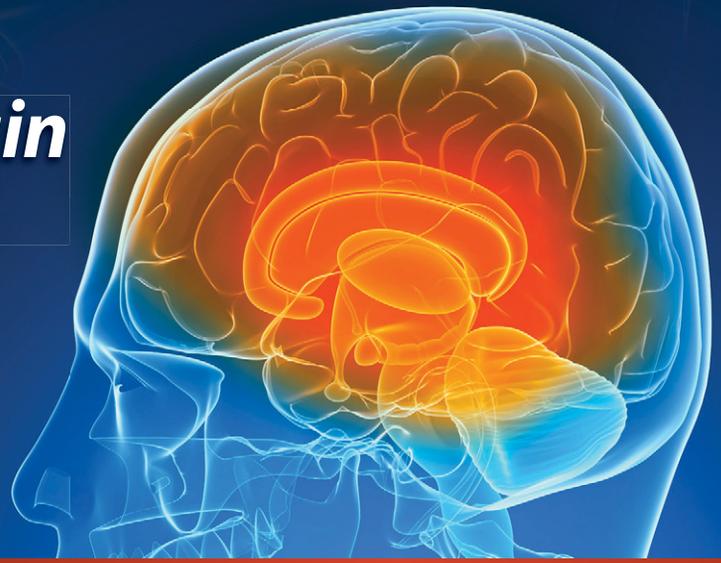
Item # 01610

A 12 oz bag of Life Extension® Rich Rewards Decaffeinated Roast retails for \$14. Members pay only **\$10.50** per bag. Item # 01610

Value-Priced Formula!

Don't Starve Your Brain
Maintain Mental Acuity with

Cognitex® Basics



Shocking data just released reveal that someone in America develops an age-related brain deficit every 69 seconds!¹



Within 20 years, an astounding **71 million** aging individuals will be at risk for cognitive problems.¹

Thankfully, new research indicates that some of the factors behind this alarming trend may lie within your control. The key is to maintain a steady supply of special **nutrients** clinically shown to support brain health as you age.

FOOD FOR THOUGHT

A healthy adult brain has about 100 billion nerve cells. Each cell requires specific dietary support for optimum performance. **Most aging individuals, however, are unwittingly starving their brains of these critical nutrients.**

You may be one of them.

The reason? Healthy dieting. Many of the foods you should rightfully avoid—eggs, red meat, cheese—contain these vital brain-boosting nutrients.

Life Extension® developed the comprehensive Cognitex® formula back in **1982** to provide optimal support for the aging brain.

Cognitex® Basics is a simplified, low-cost formula featuring two important compounds missing from a healthy diet—for maximum cognitive support **and** lifelong mental power. These two nutrients are:

1. ALPHA-GPC: A PRESCRIPTION DRUG IN EUROPE

The neurotransmitter **acetylcholine** is critically involved in memory, cognition, sleep, and motor control. The nutrient **Alpha-GPC** (alpha-glyceryl phosphoryl choline) is an acetylcholine “precursor.” Your brain needs it to produce optimal amounts of acetylcholine. Owing to the clinical studies validating its brain-supporting power, **Alpha-GPC** is

sold as an expensive *prescription drug* in Europe. The suggested serving of two softgels of **Cognitex® Basics** supplies **600 mg** of **Alpha-GPC**.

2. AN FDA-SUPPORTED BRAIN HEALTH PROMOTER

Found in human milk, **phosphatidylserine** is essential in helping brain neurons support memory and promoting healthy nerve cell division and repair. Research shows it can benefit people of all ages. So much so that since 2003, the FDA has recognized that phosphatidylserine consumption may reduce the risk of dementia and cognitive dysfunction in the elderly.² The suggested daily serving of **Cognitex® Basics** provides **100 mg** of phosphatidylserine.

Age-related cognitive decline is often referred to as a “senior moment”, “brain fog”, or “drawing a blank.” These problems lie in store for anyone who lives long enough. Taking precautionary measures can yield huge neurological health dividends in the future.

A bottle containing 60 softgels of **Cognitex® Basics** retails for \$38. If a member buys four bottles, the price is reduced to just **\$26.25** per bottle.



Item # 01421

Two softgels of Cognitex® Basics provide:

Sharp-GPC™ Active Alpha-Glyceryl 600 mg
Phosphoryl Choline (A-GPC)
Sharp-PS® Phosphatidylserine 100 mg

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

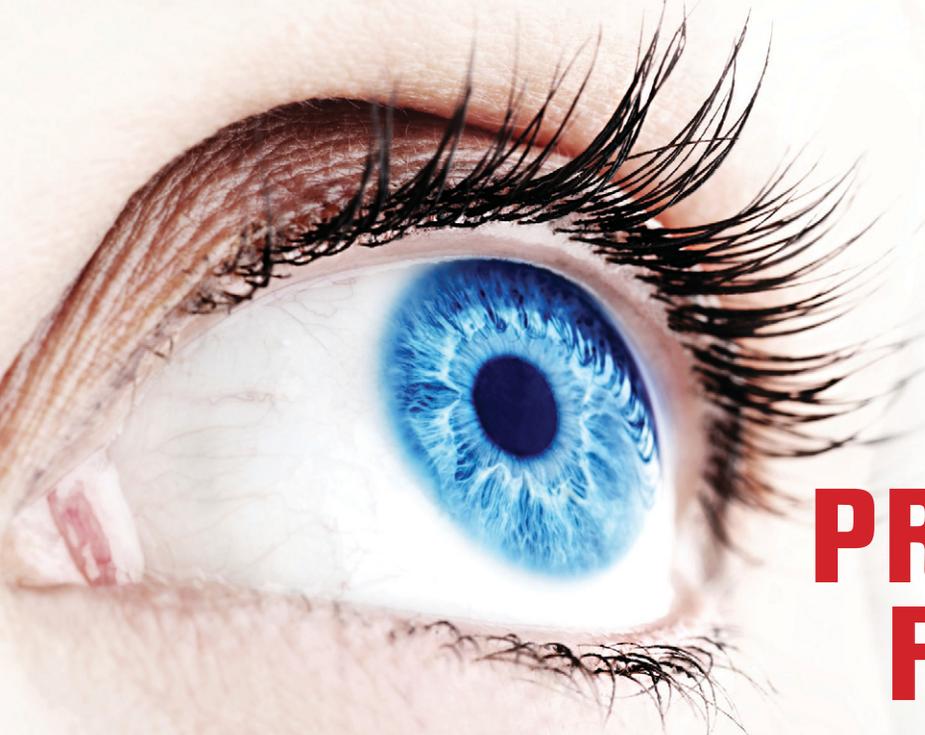
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Accessed September 22, 2011.
2. www.fda.gov/Food/LabelingNutrition/LabelClaims/QualifiedHealthClaims/ucm073006.htm. Accessed September 28, 2010.

Contains soybeans. Sharp-PS® is a registered trademark and Sharp-GPC™ Active is a trademark of Enzymotec Ltd.

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

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



Enhanced Night Vision!

EYE PROTECTION FORMULA

Falling down is responsible for 70% of accidental deaths in older people.¹ Poor lighting conditions are often the culprit.

Fortunately, **C3G** derived from **black currant** supports eyesight in **dark** conditions by promoting the healthy function of delicate structures within the retina that support **night vision**.²

Super Zeaxanthin contains a potent dose of **C3G** to nourish cells throughout the body.

Maintain Macular Density

The **macular pigment** is composed of lutein, zeaxanthin, and meso-zeaxanthin. The *density* of the macula is essential to proper vision. Macular density declines naturally over time.

Eating lots of lutein- and zeaxanthin-containing vegetables can help maintain the structural integrity of the macula. However, since **meso-zeaxanthin** is not part of the typical diet, it cannot be easily replaced. Young people convert lutein into meso-zeaxanthin inside their macula. Some aging people, however, lose their ability to convert lutein into **meso-zeaxanthin**.

The **Super Zeaxanthin** formula provides **zeaxanthin, lutein and meso-zeaxanthin** to help maintain macular density.

Combat “Eye Fatigue”

Staring at a fixed-distance object such as a computer screen for a long period of time can cause the muscles that focus your eyes (called the ciliary body) to tire or go into spasm. This can result in physical symptoms such as head discomfort, sensitivity to glare, tiredness, soreness, dryness, and blurry vision.

Super Zeaxanthin contains a potent dose of **astaxanthin**, a carotenoid found in red algae. Studies show that taking astaxanthin

with other carotenoids protects against free radical–induced DNA damage, repairs UVA-irradiated cells, and inhibits inflammatory cell infiltration.³⁻⁶

Astaxanthin also helps support vascular health within the eye and improves visual acuity.⁵ Its fat-soluble nature offers protection to sensitive cells inside the eye.⁷

Comprehensive Ocular Protection in One Daily Capsule

The new **Super Zeaxanthin** formula provides natural plant extracts that have been shown to promote healthy eyesight. Just **one** softgel of **Super Zeaxanthin with Lutein, Meso-Zeaxanthin Plus Astaxanthin and C3G** provides:

OptiLut® , Lutein Plus® and MZ® Marigold (<i>Tagetes erecta</i>) Extract (flower) [free lutein equivalent 10 mg]	38 mg
Zeaxanthin & Meso-zeaxanthin blend [micronized zeaxanthin, OptiLut® , Lutein Plus® and MZ® Marigold Extract (flower)]	3.75 mg
Natural Astaxanthin (AstaREAL® and Zanthin® CO2 extracts of <i>Haematococcus pluvialis</i> algae)	6 mg
C3G (Cyanidin-3-glucoside) [from European black currant (<i>Ribes nigrum</i>) extract (fruit)]	2.2 mg

The retail price for a bottle containing 60 softgels of **Super Zeaxanthin with Lutein, Meso-zeaxanthin Plus Astaxanthin and C3G** is \$42. If a member buys four bottles, the price is reduced to just **\$28.50** per bottle.



Item # 01586

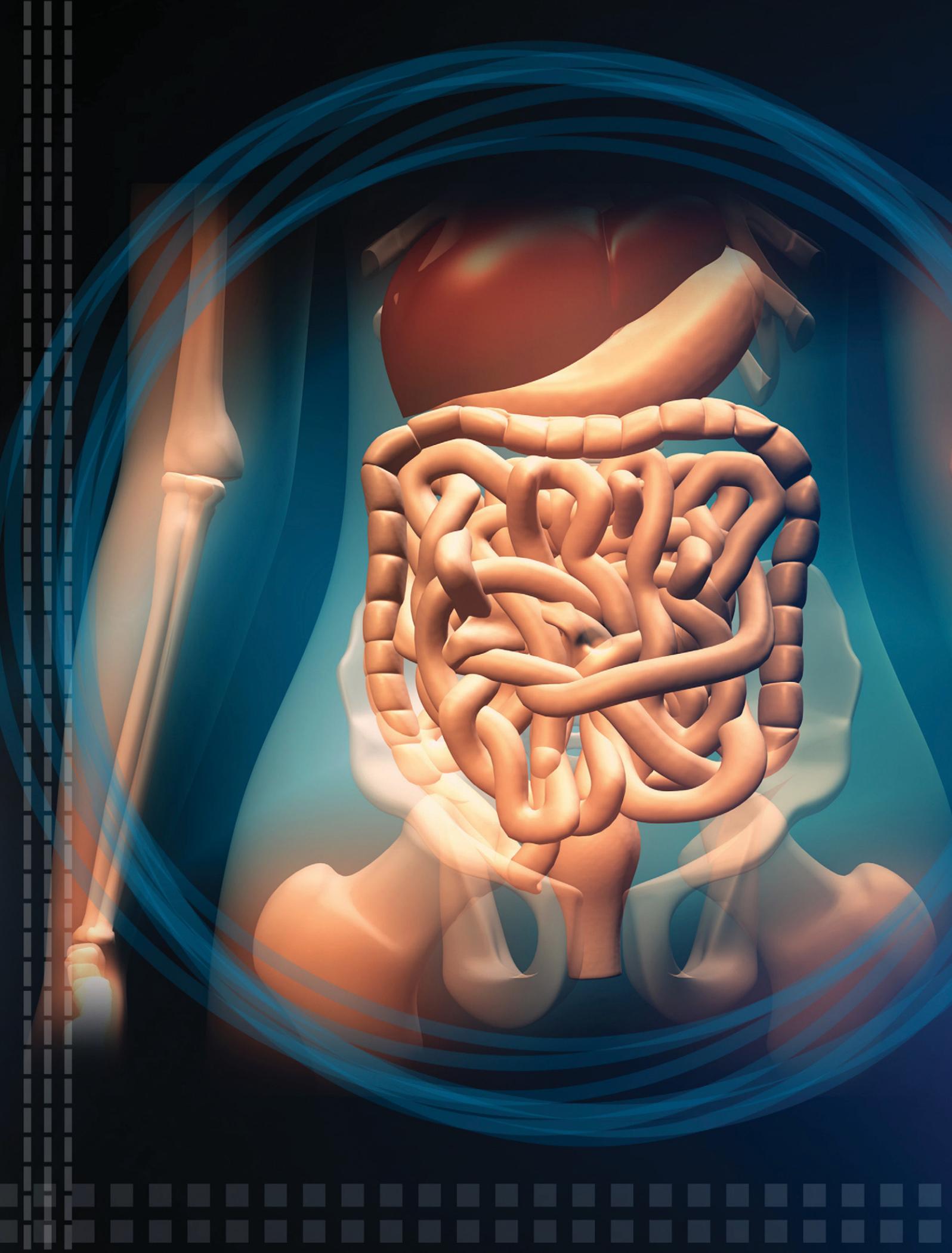
To order **Super Zeaxanthin with Lutein, Meso-zeaxanthin Plus Astaxanthin and C3G**, call **1-800-544-4440** or visit **www.LifeExtension.com**

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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 Overlooked Role of Probiotics in Human Health

BY JOYCE KILLIAN

Probiotics have formed a vital part of Mediterranean and Middle Eastern diets for thousands of years, in the form of fermented milk and vegetable products such as yogurt and pickles.^{1,2} They are credited, in part, for the relatively low rates of chronic, age-related diseases that prevail in those regions.²

Now, research is catching up with this traditional wisdom in the form of accelerated scientific investigations into the broad spectrum health benefits of **probiotics**. This new science, known as **pharmabiotics**, uses probiotic organisms as natural pharmaceutical agents in the treatment and prevention of disease along with promoting longevity. Pharmabiotics provides an almost limitless source of biologically active materials which can influence human health.³

What is Pharmabiotics?

The science of pharmabiotics is based on an explosion of data about the so-called human *microbiome*, which is made up of the trillions of bacteria that live in our bodies. These bacteria are so intimately involved with our lives and health that they are considered a part of the human organism.^{4,5,6} With advancing technology, scientists are now able to select specific strains of organisms to accomplish precise tasks.⁷

What Are Probiotics?

Probiotics are beneficial organisms, most of which are normally found in the healthy human gastrointestinal tract. Many different strains of probiotic organisms are in use, which have different but overlapping benefits. Probiotic organisms work through several interrelated mechanisms to promote health at the molecular level.⁸ They conquer potentially dangerous organisms in the intestine, reducing the risk of infection or toxin-mediated diseases. They regulate immune responses which enhance healthy reactions to dangerous infectious organisms, and they suppress excessive inflammation. Additionally, probiotics promote the function of the intestinal inner lining, enhancing its ability to act as a barrier to the entry of potentially dangerous organisms and chemicals.⁹⁻¹²

All of these actions depend on a system of biochemical signals between your intestinal bacteria and the human cells that comprise the rest of your body (See sidebar).^{8,13}



When things go wrong in the balance of intestinal organisms, the consequences can be tremendous.³ Negative changes in the intestinal microbiome are firmly associated with chronic diseases that include inflammatory bowel disease, cancer, cardiovascular disease, and the metabolic syndrome.^{5,15,16} We now recognize that allergic disorders, asthma, and even obesity are also related to an unhealthy population of intestinal bacteria.^{5,11}

Due to modern diets and lifestyle, as well as environmental factors such as pollution and the irresponsible overuse of antibiotics, the beneficial bacteria in your microbiome is at risk which can lead to an increased incidence in metabolic and inflammatory chronic diseases.⁶ Even simple aging gradually shifts your intestinal bacterial population towards a disease-promoting, rather than a disease-preventing, state.¹⁷⁻²¹

The good news is that probiotics can help restore balance and cellular communications with regard to the body's healthy bacterial population.⁵ In the digestive tract, probiotic therapy has been used to prevent or treat lactose intolerance, intestinal infections and diarrhea, gastritis and ulcers caused by the bacterium *Helicobacter pylori*, colitis caused by excessive antibiotic use, inflammatory bowel diseases, and irritable bowel syndrome.^{10,22-26} They are also proving instrumental in preventing colon cancer.^{22,27-30}

Intestinal Bacteria Modulate Key Signaling Systems With Your Body

The lining of your gastrointestinal tract is the largest interface between your body and the external environment – it has even more surface area than your skin.¹⁴ At that interface your body has three types of chemical detectors: nerve cells, endocrine cells, and immune cells. Signals from those detectors affect tissues and organs throughout your body.

Those detector systems are more extensive than those of any other organ: there are nearly a billion neurons in the intestinal nervous system, the intestinal endocrine system uses more than 20 identified hormones, and the gut immune system contains **70 to 80%** of the body's immune cells.¹⁴

All of those detectors are profoundly influenced by the composition of your intestinal microbial population. When you use probiotics to maintain or restore a healthy balance in your intestinal tract, you are directly and indirectly promoting health in many of your body's most vital systems.

All of those benefits within the intestine might be expected. But probiotics also have profound beneficial effects throughout the body, especially on metabolic and inflammatory conditions.¹⁵

Overweight people have lower levels of beneficial bacteria than do slender people, and chronic exposure to unhealthy bacterial cell walls can trigger system-wide inflammation.³¹⁻³³ Together these effects contribute to development of the metabolic syndrome, with its pathological disturbances in lipid and glucose metabolism.^{31,34}

Probiotics can favorably alter the composition and activities of the intestinal bacterial community, potentially reversing major contributors to chronic disease.³⁵

Studies show that probiotics can improve hypertension, lower total and LDL-cholesterol, and improve insulin sensitivity, all components of the human metabolic syndrome.³⁶⁻³⁸ Human and animal studies show that probiotics also attenuate non-alcoholic fatty liver disease (NAFLD) due to obesity and a high-fat diet.^{35,39-43} Probiotics may also have a major role in preventing cancers outside of the gastrointestinal tract, by several different mechanisms. Probiotic organisms can bind to potential carcinogens, promoting their excretion.⁴⁴ They also suppress growth of bacteria that convert harmless procarcinogen molecules into carcinogens.^{44,45} Finally, probiotics stimulate expression of liver enzymes that detoxify carcinogens, while down-regulating those that convert harmless molecules into carcinogens.⁴⁴ Together these effects have been shown to reduce the risk, incidence, and number of tumors in the colon, liver, and bladder.⁴⁴

Probiotics also modulate your immune system, an effect that has impact not only on cancer but also on your overall health status, as we'll now see.

Probiotics Boost Immunity

In recent years the enormous importance of the gastrointestinal tract in modulating the immune system has been increasingly recognized. Not only does more than **70%** of the human immune system reside in the gut, but the intestinal immune system produces more antibodies than the rest of the body put together.⁴⁶ As a result, gastrointestinal secretions are as rich as breast milk in health-supporting and disease-preventing factors.⁴⁷

A poorly functioning immune system is at the root of many chronic degenerative diseases. Too little response makes us vulnerable to the infections that claim the lives of so many older adults. But inappropriate overactivation can produce chronic inflammation that contributes to the litany of age-related disorders such as cardiovascular disease, diabetes, cancer, and the metabolic syndrome.



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Bifidobacteria are used as a probiotic to improve intestinal flora balance, inhibit harmful bacteria, promote good digestion, boost immune function, and increase resistance to infection.

The Role of Probiotics

- Your intestinal organisms form an integral part of who you are (there are 10 times as many of their cells as there are of yours).
- Beneficial members of your intestinal bacterial community promote critical cellular signaling that influences the health of your intestine and your whole body.
- Aging, lifestyle, and environmental influences threaten to perturb the balance of your intestinal organisms, leaving you vulnerable to immune disturbances and chronic, age-related conditions.
- You can strengthen your intestinal organisms by supplementing with probiotics, cultures of beneficial organisms that exert multiple favorable effects.
- Bifidobacteria in particular have been shown to protect humans against inflammation, infection, cardiovascular disease, and cancer.
- A clinically validated strain of bifidobacteria, BB536, arrives in the colon largely intact and ready to boost your intestinal microbial population.
- BB536 has demonstrated potent immune modulatory effects, reducing inflammation while protecting against infections and promoting cardiovascular health.



Probiotics can restore and rebalance your gut microbiome, strengthening its ability to interact with your immune system in many ways.⁵ These friendly bacteria stimulate healthy immune surveillance, boosting populations of cells that seek out and destroy infecting organisms and cancers.^{25,45,48} They upregulate inflammatory cytokines during the acute stage of an infection, cancer, or other threat to your body's integrity, but they also contribute to suppression of the inflammatory response as the threat fades.^{45,49}

Bifidobacteria — Powerful Probiotic Protection

Bifidobacteria are one of the most popular and best-studied probiotic organisms. The bifidobacteria are a large group of normal intestinal organisms with a host of overlapping benefits.

Bifidobacteria probiotics have long been used as dietary supplements in Japan, to achieve and maintain high levels of healthy bifidobacteria in the colon. Breastfed infants develop a simple microbial population dominated by bifidobacteria, helping the growing child to fend off multiple challenges to the immune system.⁵⁰ As we age, the numbers of bifidobacteria in our intestines drop, while less beneficial and more harmful organisms multiply. Experts now recommend high bifidobacteria levels at all ages.⁵⁰ Supplementing with bifidobacteria produces a wide range of health benefits. Bifidobacteria supplements are shown to raise protective HDL cholesterol levels in humans

and animals, and lower total and LDL cholesterol levels.^{37,51-53} The corresponding reduction in the ratio of LDL to HDL cholesterol represents an important reduction in cardiovascular disease risk.

Bifidobacteria supplementation also suppressed inflammatory cytokine production by the intestines of elderly volunteers, reducing the burden of inflammation that contributes to cardiovascular, cancer, and metabolic disease risk, and thereby early death.⁵⁴ Intriguingly, animal studies demonstrated a significant increase in longevity in supplemented mice.⁵⁵ Similar studies in humans are eagerly awaited, offering as they do a means for selecting specific probiotics to prolong human lifespans.⁵⁶

The most prominent effects of bifidobacteria supplementation are on the health of the intestinal tract itself. Supplementation reduced episodes of acute diarrhea by **34%**, and those of antibiotic-associated diarrhea (a major cause of illness and death in older people) by **52%**, while reducing traveler's diarrhea episodes by **8%**.⁵⁷ Bifidobacteria supplementation for two weeks also shows promise in improving diarrheal illness in people with lactose intolerance.⁵⁸

People with **irritable bowel syndrome** suffer from alternating bouts of diarrhea and constipation, often suffering painful abdominal bloating and gas production. Bifidobacteria supplementation produced a significant reduction in abdominal distension and improved symptom scores along with faster bowel transit times (which reduces cancer risk).^{59,60}

Many people have frequent minor digestive symptoms such as bloating, gas, and periodic constipation, all of which, while not dangerous, appreciably reduce comfort and quality of life. Several recent studies demonstrate significant improvements in measures of gastrointestinal wellbeing, decreases in digestive symptom scores and bloating, and increases in health related quality of life during bifidobacteria supplementation.^{61,62}

The much more dangerous inflammatory bowel diseases ulcerative colitis and Crohn's disease are the source of untold misery and a major risk for colon cancer. Because of their ability to fight inflammation, bifidobacteria supplements have received special attention in managing these conditions.²⁶

Bifidobacteria supplements enhance the "tight junctions" between intestinal cells that allow leakage of dangerous organisms and their products into the bloodstream in ulcerative colitis.⁶³ They also alter the intestinal environment, making it unfavorable for organisms that trigger episodes of colitis.⁶⁴ Clinical studies show marked improvements in symptoms of inflammatory bowel diseases with bifidobacteria supplements.⁶⁵⁻⁶⁷

Bowel inflammation is a major risk for colon cancer, the third most common cancer in the world. Bifidobacteria supplementation lowers levels of a number of biological markers of colon cancer risk in patients with colitis.⁶⁸ It also blocks development of new tumors in an animal model of toxin-induced colon cancer.²⁸ More definitive human studies remain to be conducted, but indications are bright for bifidobacteria as potent cancer-preventing pharmabiotic agents.

BB536® Strain of Bifidobacteria Confers Special Benefits

There are many strains of beneficial bifidobacteria, all of which have related, overlapping benefits. One challenge to development of effective supplements has been to keep cultures of the organism stable, and to deliver them alive to the colon after surviving the extreme conditions of the stomach and small intestine.⁶⁹

A strain of bifidobacteria, called BB536®, appears to meet that challenge, and to have unique benefits throughout the body.

The BB536® strain of bifidobacterium logum has been shown to increase the numbers of bifidobacteria living in the colon.^{69,70} That increase allows BB536® cultures to produce marked effects on intestinal, and whole body, immune responses, with potentially far-reaching impact.

BB536® has been most extensively studied in Japan, where subjects with reactions to cedar pollen expe-

rience typical allergic symptoms of sneezing, runny nose, and itchy eyes. This condition, Japanese cedar polinosis, is far from deadly, but offers insight into the ability of BB536® to modulate immune responses by multiple pathways.

This strain BB536® reduces production of the special antibody, IgE, which is produced in response to allergens, parasitic infections, and certain other common human conditions.⁷¹ BB536® also suppresses cellular immune responses that contribute to allergic symptoms and inflammation.⁷² Finally, BB536® reduces production of inflammatory cytokines that closely correlate with symptom development.^{73,74}

Human studies with BB536® repeatedly demonstrate its ability to alleviate allergic symptoms of Japanese cedar polinosis, with decreases in runny nose, nasal congestion, eye symptoms, and composite symptom scores.^{75,76}

While BB536® suppresses overactive immune responses in allergic patients, exciting new studies are showing that it can enhance the immune response to infections.

In older adults, BB536® reduced the incidence of influenza infection and fever in one at-risk population, compared with placebo recipients.⁷⁷ Flu symptoms and death from influenza are largely caused by excessive inflammatory responses. An example of excess inflammatory response is **pneumonia** that can be induced by influenza viruses. These **excessive inflammatory responses** were reduced in animals exposed to influenza virus that were supplemented with BB536®.⁷⁸



Studies show that BB536® can prevent infection with the deadly *Pseudomonas* organism in mice with weakened immune systems.⁷⁹ And humans who supplemented with BB536® showed a reduction in numbers of a dangerous strain of the bacterium *Bacteroides fragilis* in their intestines.⁸⁰

BB536® may also reduce cardiovascular risk factors, though data are preliminary to date. Supplements were effective at lowering plasma LDL cholesterol in women with elevated lipid levels in an early trial.⁸¹

Summary

Age and the modern environment pose grave threats to the balance of favorable organisms in your intestine indicating a benefit to those who supplement with healthy probiotic cultures. The bifidobacteria are an especially active group of probiotic organisms, with beneficial effects on the immune system and chronic disease.

A clinically-validated strain of bifidobacteria, BB536®, shows great promise in overcoming challenges to stability, storage, and delivery of this probiotic species. BB536® exerts powerful immune modulatory, infection-preventing, and cardiovascular health-promoting activities. ●

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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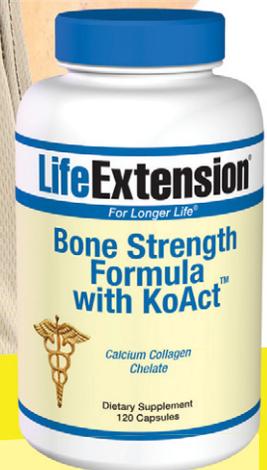


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STRONGER BONES, STRONGER YOU



Item # 01211

Your bones are the skeletal foundation of your body. Keeping them strong is vital to maintaining optimal quality of life as you age. Life Extension® has formulated an exciting product made with chelated calcium and collagen called KoAct® to maintain bone strength and mineral density.

KoAct® allows for greater flexibility...so your bones can absorb energy, reducing the risk of age-related injuries. Additional plant extracts are included for their bone-protective minerals and polyphenols.

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

Contains corn.

Four capsules of Bone Strength Formula with KoAct® provide:

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

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

KoAct® is a registered trademark of AIDP, Inc. FruiteX B® and OsteoBoron® are registered trademarks of VDF FutureCeuticals, Inc., U.S. Patent #5,962,049.

To order Bone Strength Formula with KoAct®, 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.

HALF OF AGING HUMANS IN THE DEVELOPED WORLD ARE MAGNESIUM DEFICIENT!¹

YOU MAY BE ONE OF THEM.

Optimal amounts of magnesium may now be obtained in a novel, highly *absorbable* form called **Neuro-Mag™ Magnesium L-Threonate**, available in **capsules** or **tasty lemon-flavored powder**.

A Critical Brain Booster. . .

Magnesium is needed for more than **300** biochemical reactions in the body.²

Long known for its role in cardiovascular³⁻⁵ and bone health,⁶ energy metabolism⁷ and mood,⁸ researchers are now focusing *intensely* on magnesium's benefits for **cognitive function**.²

Unfortunately, it is very *hard* for your body to maintain optimal levels of magnesium in the **brain**.² This problem is of *special concern* for maturing individuals, as magnesium deficiency *increases* over time.¹

Scientifically Advanced, Lab Tested

Most commercially available magnesium supplements are not readily absorbed into the central nervous system.

To overcome this obstacle, an innovative form of magnesium is being introduced called **Neuro-Mag™**, shown to specifically target the aging brain and nervous system.

In pre-clinical models, **L-threonate** contained in **Neuro-Mag™** boosted magnesium levels in spinal fluid by an impressive **15%** compared to no increase with conventional magnesium.²

Even more compelling, animal models revealed improvements of **18%** for short-term memory and **100%** for long-term memory using the **Neuro-Mag™** form of magnesium.²

Capsules or Powder... Value Priced

The suggested daily dose of three **Neuro-Mag™ Magnesium L-Threonate Capsules** provides **2,000 mg** of **Magnesium L-Threonate**. While this supplies a modest **144 mg** of elemental magnesium, its superior *absorption* into the bloodstream and nervous system make it a preferred choice for aging humans to supplement with.

This highly absorbable brain health-supporting magnesium is also available in a good tasting powder mix called **Neuro-Mag™ Magnesium L-Threonate with Calcium and Vitamin D3 Powder**. In addition to its appealing lemon flavor, the one-scoop per day serving size supplies the same amount of magnesium plus **500 mg** of **calcium** (as calcium lactate gluconate—a highly *soluble* form of calcium) and **1,000 IU** of **vitamin D3**.

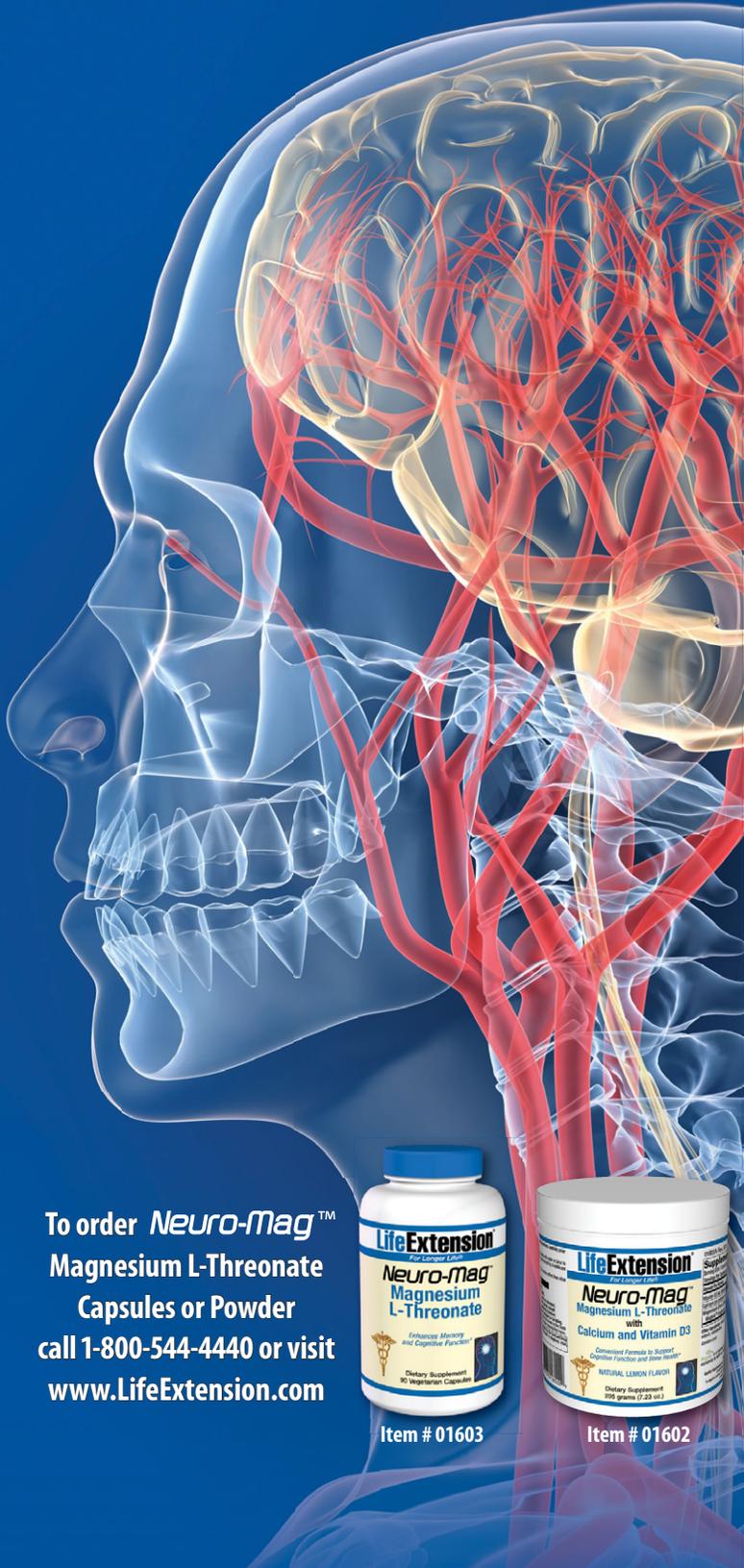
This offers maturing individuals an easy way to obtain these key nutrients in one simple formula.

A bottle containing 90 vegetarian capsules of **Neuro-Mag™ Magnesium L-Threonate** or **30** scoops of **Neuro-Mag™ Magnesium L-Threonate with Calcium and Vitamin D3 Powder** retails for \$40. If a member buys four bottles, the price is reduced to **\$27** per bottle. Contains corn.

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Magtein™ is a trademark of Magceutics, Inc, distributed exclusively by AIDP, Inc. Patent pending.



To order **Neuro-Mag™**
Magnesium L-Threonate
Capsules or Powder
call 1-800-544-4440 or visit
www.LifeExtension.com



Item # 01603



Item # 01602

Overlooked Benefits of Properly Formulated **PROBIOTICS**

Probiotics literally means "for life." Traditional diets comprising of foods containing **probiotics** (such as the **Mediterranean Diet**) have been shown to promote health and longevity.¹

People take probiotics to facilitate intestinal health, but probiotics perform many more important functions. For example, researchers have discovered that probiotics inhibit **nuclear factor kappa B** (NFkB), which help suppress inflammation as well as positively modulate cellular signaling pathways.²

Furthermore, studies have shown that probiotics can influence youthful gene expression.³ Properly formulated probiotics provide biologically active materials that can positively influence many aspects of human health.⁴

The Importance of the GI Tract on Immune Function

A little known fact is that **70-80% of our immunoglobulin-producing cells reside in our gut** which is populated by nearly 100 trillion microorganisms, many of which are beneficial bacteria.³ These bacteria are considered a living part of the human organism.⁵

With age, we can experience a decline in vital probiotics and the strength of our immune system. Restoring the gut's friendly bacteria can stimulate and regulate healthy immune function.⁵

A Potent, Immune Enhancing Strain of Bifidobacteria

Researchers have shown that a unique well-studied strain of the bifidobacteria probiotic called **BB536®** increases the number of healthy bacteria in the colon.⁶ An *in vivo* study demonstrated a significant increase in longevity in mice supplemented with bifidobacteria.⁷ Long studied by Japanese scientists, BB536® was found to reduce production of inflammatory cytokines that often accompany seasonal symptom development.⁸

BB536® is a highly researched active probiotic. Each capsule provides 2,000,000,000 (two billion) colony forming units of viable healthy bacteria.

A bottle containing 60 capsules of **Bifido GI Balance** retails for \$20. If a member buys four bottles, the price is reduced to just **\$13.50** per bottle.



Item #01622

Contains milk.

BB536® is a registered trademark of Morinaga Milk Industry Co., Ltd.

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To order
Bifido GI Balance
call 1-800-544-4440,
or visit
www.LifeExtension.com

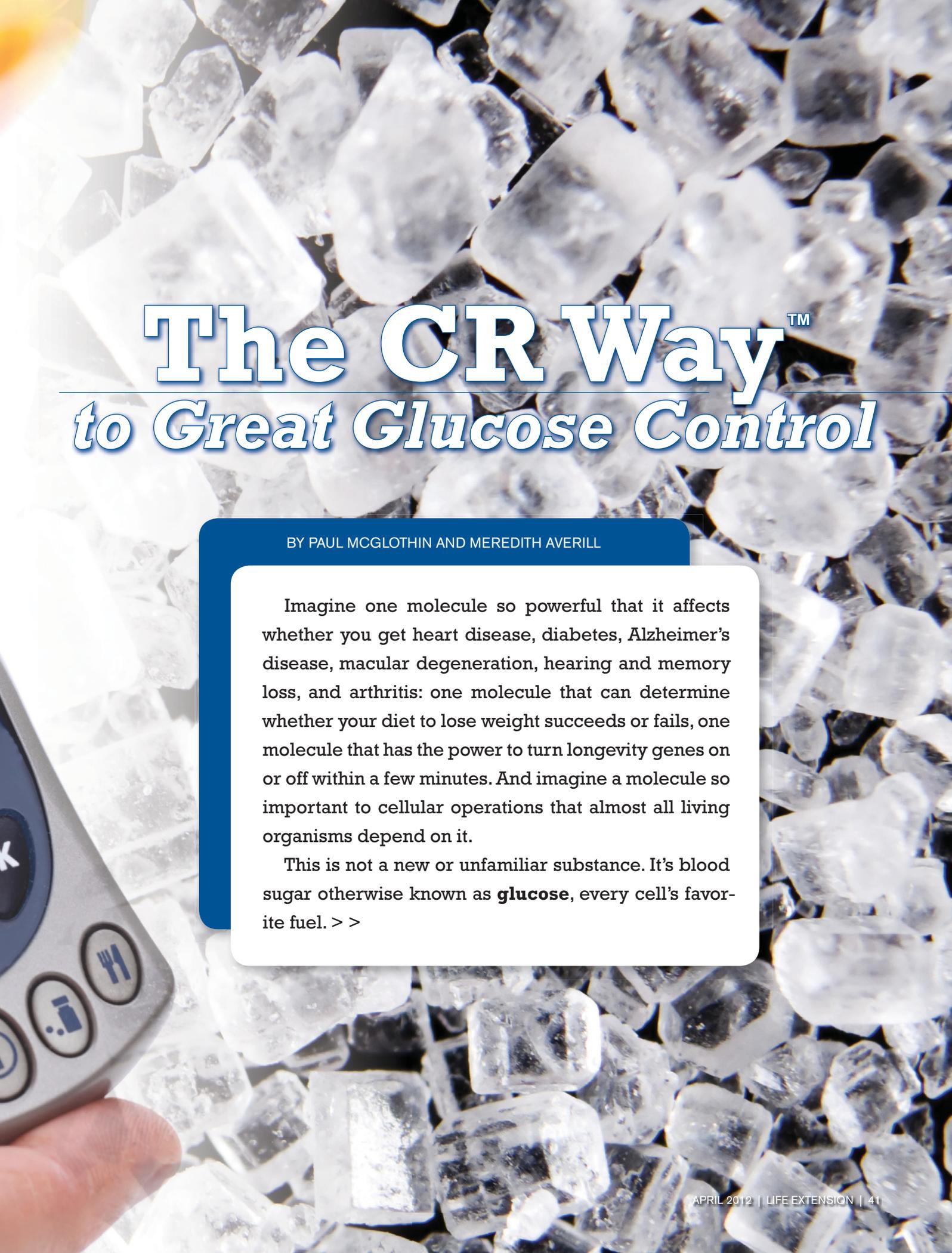


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mg/dL

Confirmation? Press OK

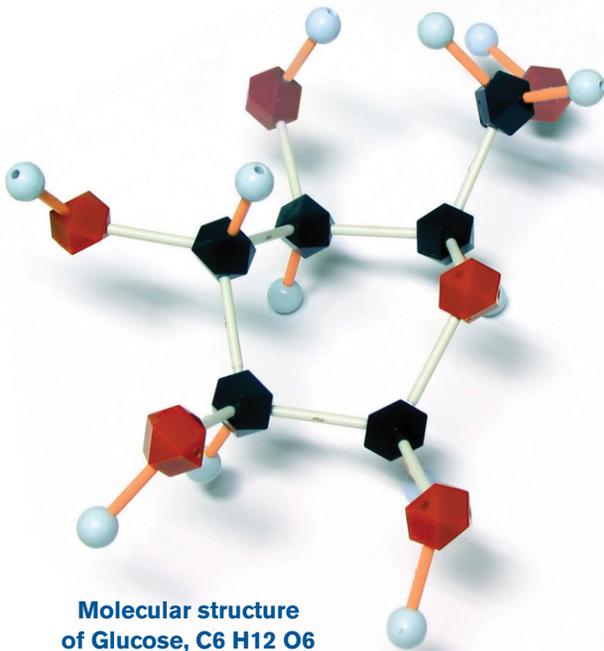


The CR Way™ *to Great Glucose Control*

BY PAUL MCGLOTHIN AND MEREDITH AVERILL

Imagine one molecule so powerful that it affects whether you get heart disease, diabetes, Alzheimer's disease, macular degeneration, hearing and memory loss, and arthritis: one molecule that can determine whether your diet to lose weight succeeds or fails, one molecule that has the power to turn longevity genes on or off within a few minutes. And imagine a molecule so important to cellular operations that almost all living organisms depend on it.

This is not a new or unfamiliar substance. It's blood sugar otherwise known as **glucose**, every cell's favorite fuel. > >



Glucose is closely related to the most familiar sugar: table sugar or sucrose. To get table sugar, a glucose molecule combines with a fructose molecule. Most likely a bag of it is stored somewhere in your kitchen.

Even though glucose is closely related to sucrose – table sugar and the sugar in lots of sweet foods may not be the worst offender against a healthful diet. Easily processed **starch** in some carbohydrates is rapidly converted into blood sugar, often sending it soaring and increasing disease risk.

High glucose levels are a significant risk factor for disease and shortened life span,¹ so it is no surprise that a fasting blood glucose level is included in a standard panel, regularly used by physicians to assess a patient's level of health. A top-of-mind concern for people with high fasting glucose levels is risk of developing type 2 diabetes mellitus (T2DM) and if you already have diabetes – increased probability of complications such as high blood pressure, heart attack, stroke, kidney disease, diabetic retinopathy, and the preventable loss of limbs, especially the feet.²

High glucose levels create extra problems for dieters who want to lose weight. Excess weight causes insulin resistance –making the body's use of insulin, the hormone that facilitates glucose uptake into cells, impaired. This causes a vicious cycle, often referred to as *metabolic syndrome*, of increased body fat – especially around the waist and upper body, high blood pressure, low HDL, high triglycerides, and chronically elevated blood glucose,³ which actually shuts down the biochemistry needed to lose weight healthfully.

Healthful weight loss depends in part on keeping fasting glucose levels low, which helps force the body to make a metabolic shift from fat storage to fat burning.⁴ Once this level of glucose control becomes your normal state of health, you will be surprised at how rapidly you lose weight and how energetic you feel.

Very few people reduce their calorie intake enough to get the health effects of calorie restriction. Yet, high blood glucose may keep them from gaining the full benefits of this most healthful lifestyle. In fact, high glucose alone is attributable to more than **8 to 9%** of deaths in the United States.⁵

The CR Way™ focus on glucose control began almost ten years ago, when the cell signals that control the life-transforming benefits of calorie restriction were being discovered. In private conversations with scientists at the center of the discovery process, we predicted that glucose levels would play a key role in activation of longevity biochemistry. How right we were!⁶

Newer studies reinforce the longevity mechanisms that **activate** in response to attaining **optimum** fasting and postprandial **blood glucose levels**.

The CR Way™ is a program that enables people to enjoy low calorie meals and, in particular, to suppress after-meal (postprandial) surges in blood glucose that is an underlying cause of many major diseases. The danger zone manifests when after-meal glucose levels rise above **144 mg/dL**, as shown in the chart on the next page from *THE CR WAY™ TO GREAT GLUCOSE CONTROL* program.



High Glucose Levels Negate Low-Calorie Benefits

Condition	Low calorie, Low-GI ^a Diet: Benefits -	High-GI ^a diet Post-meal Glucose > 144 mg/dL: Risks -
Heart attack ^b	Decrease	Increase
Atherosclerosis ^b	Decrease	Increase
High blood pressure ^b	Decrease	Increase
Retina damage ^c	Decrease	Increase
Hearing Loss ^c	Decrease	Increase
Memory loss ^c	Decrease	Increase
Alzheimer's disease ^c	Decrease	Increase
Kidney disease ^c	Decrease	Increase
Diabetes ^b	Decrease	Increase
Longevity ^c	Increase	Decrease

a GI = Glycemic Index, detailed at GlycemicIndex.com, accessed Nov. 11, 2011

b Guideline for Management of Post-meal Glucose. International Diabetes Federation. 2007, available at www.idf.org

c Protection from Disease. McGlothlin P, Averill M. Multiple references, as cited on LivingTheCRWay.com, accessed, Nov. 1, 2011

Even if your fasting glucose is perfect, your post-meal glucose must be considered. And that's not easy when disinformation so thoroughly pervades the Internet and health publications. Writers often recommend recipes and methods of preparation that will send blood glucose soaring. We encourage every professional health editor and medical professional who gives advice to maintain high standards for keeping glucose levels low and to use a glucometer to test the glucose effects of their recommendations before publishing them.

William Faloon, in his excellent article in the January 2011 issue of *Life Extension*, *Glucose: The Silent Killer*, referenced The CR Way™ glucose control guidelines, indicating the **70 to 85 mg/dL** range as good for fasting glucose in people without diabetes. Post-meal glucose is just as important and is recommended to be below **120 mg/dL**. This is vitally important for anyone who aspires to practice calorie restriction for weight loss, disease protection, and longer life.

Low fasting glucose levels activate a cellular energy regulator known as AMP Kinase (AMPK), a cellular manager that activates energy production when calories and glucose levels are low. Scientists speculate that AMPK evolved long before hormones like insulin became part of biology to coordinate metabolism.⁷

Think of AMPK as the thermostat in your house, which automatically goes on when the temperature falls too low. AMPK senses low energy (calorie deficit) availability in cells and shuts down anabolic (cellular growth) actions and excess energy usage. These actions slow aging and decrease cancer risk.

AMPK makes cells more energy-efficient by facilitating glucose transfer across cell membranes, while activating fat-burning so that cells have more energy to carry out their functions. AMPK helps lower blood pressure by activating *nitric oxide synthase*, the sexy molecule that relaxes blood vessel walls and also facilitates orgasm and male erection.

AMPK activates the other pancreatic hormone, not often written about, glucagon,⁸ the hormone of biological efficiency: It swings into action when insulin production shuts down and glucose levels are low. As your body becomes used to activating glucagon, feelings of low blood sugar will become a thing of the past – as glucagon does its job to keep your glucose from falling too low. You will be surprised at how much more energetic and clear headed you become when glucagon is regularly activated as part of your lifestyle.

Healthy *Life Extension* readers may proudly say to themselves that “sugar and simple starches are not part of my diet.” But don't take for granted that so-called “healthy foods” are safe. In the new e-Book or CD, *THE CR WAY™ TO GREAT GLUCOSE CONTROL*, favorites like



blueberries and sweet potatoes are classified as “swing foods.” Depending on how they are prepared, they swing from helping keep blood glucose low to sending glucose to levels so high that your doctor may send you home with a diagnosis of *diabetes*. Most likely everyone who reads this has these or other “swing foods” in their diet. To help people enjoy “swing foods” and many other delectable choices, part 3 of *THE CR WAY™ TO GREAT GLUCOSE CONTROL* features delicious recipes and healthful foods to choose. For example, simple ways of enjoying healthful foods like blueberries is to eat whole blueberries with nuts and lemon or lime juice (to slow carbohydrate absorption). This is just one example of how easy and fun CR Way™ eating can be.

While most health experts acknowledge that keeping blood glucose low is important, people needed a guide to help them prepare swing foods healthfully and manage all the other everyday challenges they face to maintain glucose at healthful levels.

This prompted the creation of *THE CR WAY™ TO GREAT GLUCOSE CONTROL* program,⁹ offering a beautifully illustrated e-Book that downloads to your computer plus introductory access to LivingTheCRWay.com and two expert-led teleconferences to guide you in managing your glucose levels. A companion to *The CR Way™ THE CR WAY TO GREAT GLUCOSE CONTROL* introduces people to a whole new world of healthful living. Benefiting from thousands of glucose tests of recipes and foods, the e-Book provides lifestyle guides that take people through the day: from when they wake up to when they get ready for bed – complete with suggested glucose goals for each meal. Separate lifestyle plans are provided for people without diabetes and for those who have prediabetes or type 2 diabetes – so people can choose a plan that works for them. The cost of enrollment is affordable at only **\$98** for the entire program, a small investment for the best chance to increase your quality and length of life. Life Extension members pay only **\$82** for this glucose control program that can be ordered by calling **1-800-544-4440**.

Patients who need to lose significant weight and who also have diabetes should consider a medically supervised program, based on life-changing studies showing that calorie restriction can cure diabetes. Please see the letter to President and First Lady Obama, offering a doctor-supervised plan for those who need to lose weight and who have type 2 diabetes or prediabetes. ●

To order the *THE CR WAY™ TO GREAT GLUCOSE CONTROL* program, call **1-800-544-4440** or visit www.LifeExtension.com. Item # 33840 Retail **\$98** and member price **\$82**

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January 20, 2012

President Barack Obama
First Lady Michelle Obama
The White House
1600 Pennsylvania Avenue
Washington, DC, 20500

Dear Mr. President and First Lady:

You may have seen a recent news release from the Radiological Society of North America, reporting that calorie restriction (CR) cures type 2 diabetes mellitus (T2DM).¹ This is not news to us. Many studies have shown that calorie restriction may prevent and even reverse T2DM.²

As leaders of the CR Way and the CR Society, we suggest that people with either type 2 diabetes or prediabetes, combined with metabolic syndrome, follow a healthful low calorie diet under medical supervision. Eating only 500 calories per day – as in the study, reported here – is not necessary. A less restrictive plan that addresses the patients' psychological needs has a better chance of success. Such a diet should increase neurotransmitters that are known to control satiety.

Care should be taken to make the diet delicious, flexible, and culturally friendly – so that the people establish new eating habits they feel comfortable with and want to continue. At the end of their weight-loss period, they should transition to eating more calories with healthful, appetizing diet plans they can enjoy for life.

Few people can implement this by themselves. So we utilize adult education, proven to work for weight-loss programs³ including live teleconferences, combined with doctor participation – thus greatly increasing chances for success.

Twenty-six million Americans have diabetes and 79 million are prediabetic.⁴ This epidemic ruins lives and places an unsustainable burden on the nation's healthcare system. We need your help to inform the medical community that the answer may be just as simple as helping people to eat and live healthfully.

Let's marshal the medical community across the country to improve the quality of life for millions of Americans with type 2 diabetes and prediabetes by providing them with the economical and safe CR Way™ to reduce the severity of their disease and have a chance of curing it. Thank you for your time and consideration.

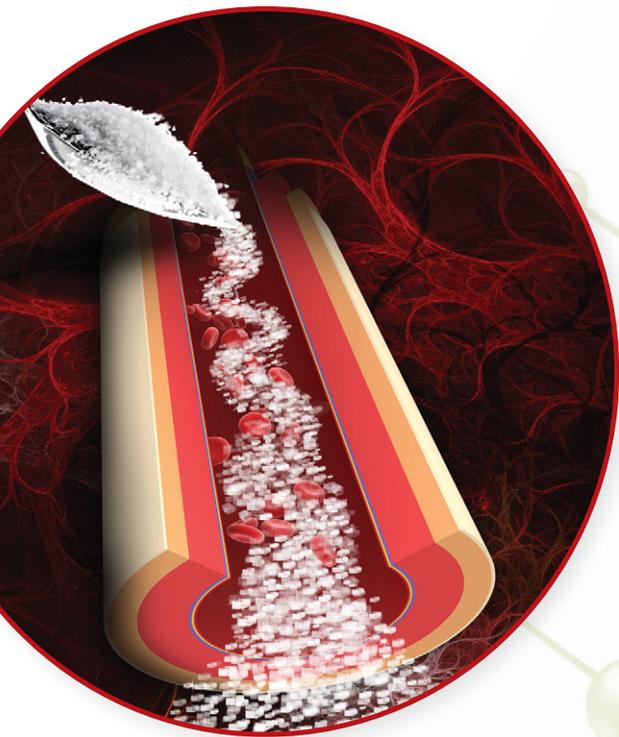
Sincerely,

¹ Available at: www.medpagetoday.com/MeetingCoverage/RSNA/29925. Accessed Dec. 13, 2011.

² Hammer S, Snel M, Lamb HJ, et al. Prolonged caloric restriction in obese patients with type 2 diabetes mellitus decreases myocardial triglyceride content and improves myocardial function. *J Am Coll Cardiol.* 2008 Sep 16;52(12):1006-12.

³ Appel LJ, Clark JM, Yeh HC, et al. Comparative effectiveness of weight-loss interventions in clinical practice. *N Engl J Med.* 2011 Nov 24;365(21):1959-68.

⁴ Available at: www.diabetes.org/diabetes-basics. Accessed Jan. 6, 2012.



NATURAL APPROACHES FOR OPTIMAL GLUCOSE CONTROL

Standardized **chlorogenic acid** supplements taken before meals can help many people achieve optimal glucose control. Life Extension® offers a variety of nutrient blends rich in **green coffee extract** that provide potent doses of **chlorogenic acid**.

CoffeeGenic™ Green Coffee Extract with Glucose Control Complex

CoffeeGenic™ Green Coffee Extract with Glucose Control Complex contains 200 mg of **CoffeeGenic™ Green Coffee** along with 5 ingredients formulated to help support healthy blood glucose levels already within normal range. Take one capsule 20-30 minutes before each meal to obtain the following nutrients in addition to Green Coffee Bean extract:

- **InSea²**, a proprietary form of seaweed extract that blocks the action of **glucosidase** and **amylase**, enzymes used to break down carbohydrates into glucose, facilitating its transport into the bloodstream. In laboratory animal studies, InSea² reduced after-meal fluctuations in blood sugar by up to **90%** when compared to non-supplemented animals and reduced blood insulin levels by as much as **40%**.¹¹
- **Chromium** optimized with standardized extract of **Indian gooseberry** and a proprietary form of an adaptogen called **shilajit**. This state-of-the-art **Crominex[®] 3+** complex also supports healthy cellular glucose utilization.⁶⁻¹⁰
- **Integra-Lean[®] African Mango (*Irvingia gabonensis*)** extract helps slow the rate of carbohydrate absorption from the intestines, thereby reducing the caloric impact of starchy and sugary foods.¹² It also moderates **glycerol-3-phosphate dehydrogenase** enzyme activity to reduce the amount of ingested starches that are converted to triglycerides and stored as fat.
- **Green tea extract** to boost resting metabolic rate and inhibit genes involved in adipogenesis.
- **Iodine** is a trace element involved in the production of thyroid hormones primarily responsible for regulating metabolism, thereby promoting healthy glucose absorption into cells, where it is used to produce energy.

Each vegetarian capsule of **CoffeeGenic™ Green Coffee Extract with Glucose Control Complex** provides:

CoffeeGenic™ Green Coffee (<i>Coffea arabica</i>) Extract (bean) [std to 50% Chlorogenic acid (100 mg)]	200 mg
Iodine (typical value naturally occurring from <i>Ascophyllum nodosum</i> and <i>Fucus vesiculosus</i>)	25 mcg
Chromium [as Crominex [®] 3+ chromium stabilized with Capros [®] (<i>Phyllanthus emblica</i>) Extract (fruit) and PrimaVie [®] Shilajit]	150 mcg
InSea² [proprietary composition of demineralized polyphenols from brown seaweeds Kelp (<i>Ascophyllum nodosum</i>) and Bladderwrack (<i>Fucus vesiculosus</i>)]	125 mg
Integra-Lean[®] African Mango (<i>Irvingia gabonensis</i>) proprietary Extract (seed)	100 mg
Green Tea (<i>Camellia sinensis</i>) Decaffeinated Extract (leaf) [std. to 98% polyphenols by UV (98 mg), 45% EGCG by HPLC (45 mg)]	100 mg

- **CoffeeGenic™ Green Coffee Extract with Glucose Control Complex** • Item #01607*
(Each serving contains approximately 7 mg caffeine)

A bottle containing **90 200 mg vegetarian capsules** of **CoffeeGenic™ Green Coffee Extract with Glucose Control Complex** retails for \$58. If a member buys four bottles, the price is reduced to just **\$39** per bottle.



CAUTION: Because these products may lower blood glucose, consult your healthcare provider before taking these products if you are taking blood glucose-lowering medication.

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

Improved Flavor!

Calorie Control Weight Management Formula with CoffeeGenic™ Green Coffee Extract

The popular **Calorie Control Weight Management Formula** powder capitalizes on the proven benefits of *slowing* absorption of carbohydrate calories after each meal and *targeting* digestive enzymes to support healthy after-meal glucose metabolism.

LuraLean® propolmannan slows the rapid emptying of ingested food into the small intestine, reducing the surge of glucose entering the bloodstream. It has also been shown to significantly lower after-meal glucose surges.^{13,14}

White Kidney Bean extract (*Phaseolus vulgaris*) inhibits *amylase*, the digestive enzyme that breaks down carbohydrates to be absorbed into the bloodstream as glucose.

Along with the benefits of Irvingia African Mango extract, a proprietary green tea phytosome enhances the metabolic effects of green tea through better *absorption* of green tea polyphenols in the blood, including EGCG.¹⁵

Calorie Control Weight Management Formula has a great smooth natural blueberry flavor that is very satisfying to drink before meals.

Each appetizing blueberry flavored stick pack or scoop of the **Calorie Control Weight Management Formula** powder provides:

CoffeeGenic™ Green Coffee (<i>Coffea arabica</i>) Extract (bean) [std to 50% Chlorogenic acid (100 mg)]	200 mg
LuraLean® propolmannan (<i>Amorphophallus konjac</i> K. Koch, ssp. <i>Amorphophallus japonica</i>) fiber Extract (root)	2,000 mg
Phase 2® <i>Phaseolus vulgaris</i> white kidney (bean) Extract	445 mg
Integra-Lean® African Mango (<i>Irvingia gabonensis</i>) proprietary extract (seed)	150 mg
Tea Slender™ Green Tea Phytosome Green Tea (<i>Camellia sinensis</i>) Phytosome Decaffeinated Extract (leaf) bound to phosphatidylcholine (from lecithin)	150 mg

● Calorie Control Weight Management Formula with CoffeeGenic™ Green Coffee Extract • Item #01693*

(Each serving contains approximately 6 mg caffeine)

A bottle containing 60 servings of **Calorie Control Weight Management Formula with CoffeeGenic™ Green Coffee Extract** natural blueberry flavor powder retails for \$60. If a member buys four bottles, the price is reduced to just **\$40.50** per bottle.

For added convenience of use, this new formula also comes in **60 individual stick packs**. Each box containing 60 servings of **Calorie Control Weight Management Formula with CoffeeGenic™ Green Coffee Extract*** natural blueberry flavor powder retails for \$64. If a member buys four boxes, the price is reduced to just **\$45** per box. **Item #01694** Contains soybeans. Contains corn.



Item # 01693



Item # 01694

Why CoffeeGenic™ Green Coffee Extract

The problem with roasted coffee you drink is that much of the beneficial phenolic content of the coffee bean is destroyed during the roasting process.

CoffeeGenic™ Green Coffee Extract is produced through a patented extraction process to deliver an extraordinarily high proportion of **chlorogenic acid** for maximum potency. The coffee beans sourced for **CoffeeGenic™ Green Coffee Extract** are organically grown.

That's why CoffeeGenic is contained in the two formulas you have read about so far. For those who want to take CoffeeGenic as a standalone, it is available in 200 mg and 400 mg potencies.

One vegetarian capsule of **CoffeeGenic™ Green Coffee Extract** should be taken before heavy meals. This Green Coffee Extract is standardized to **50% chlorogenic acid**.

● CoffeeGenic™ Green Coffee Extract (200 mg) • Item # 01604

(Each serving contains approximately 6 mg caffeine)

A bottle containing **90 200 mg vegetarian capsules** of **CoffeeGenic™ Green Coffee Extract** retails for \$25. If a member buys four bottles, the price is reduced to just **\$16.50** per bottle.

● CoffeeGenic™ Green Coffee Extract (400 mg) • Item # 01620

(Each serving contains approximately 12 mg caffeine)

A bottle containing **90 400 mg vegetarian capsules** of **CoffeeGenic™ Green Coffee Extract** retails for \$38. If a member buys four bottles, the price is reduced to just **\$25.50** per bottle.



Item # 01604



Item # 01620

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To order any of the Green Coffee Extract formulas, call 1-800-544-4440 or visit www.LifeExtension.com

CAUTION: Take at least two hours apart from medications. Because this product may lower blood glucose, consult your healthcare provider before taking this product if you are taking blood glucose-lowering medication. Taking fiber products without adequate liquid may increase the risk of choking. Consult your healthcare provider before taking this product if you have difficulty swallowing or esophageal narrowing.

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NEXT-GENERATION FORMULA

5-LOX Inhibitor

with AprèsFlex™

Ultimate Protection for Systemic Cellular Inflammation

Excess levels of the enzyme **5-lipoxygenase** or **5-LOX** set in motion inflammatory responses that have been linked to common degenerative effects in aging individuals.¹⁻⁵

Normal aging results in higher-than-desired levels of 5-LOX.

The typical American diet adds to the danger. Foods rich in **omega-6 fatty acids** like red meat, poultry, and eggs, along with high-glycemic carbohydrates, trigger overproduction of **arachidonic acid**. In response to high levels of **arachidonic acid**, the body produces the **5-LOX** enzyme.

5-LOX breaks down **arachidonic acid** to pro-inflammatory compounds like leukotriene **B4**,⁶ a molecule that attacks joints, arterial walls, and other tissues. **5-LOX** itself facilitates undesirable cell division changes.

The good news is that extract of the Indian plant **Boswellia serrata** has been shown to neutralize 5-LOX.

Higher Absorbable Boswellia

Used for centuries to help with inflammatory issues, boswellia acts as a natural **5-LOX inhibitor**, intervening at the cellular level to block its unwanted effects.

Confirmatory data reveal that a compound contained in boswellia called **AKBA** (3-O-acetyl-11-keto-β-boswellic acid)^{7,8} is the key to its beneficial action.

The problem is that boswellia is not readily absorbed into the blood.⁹

For this reason, a patent-pending, *standardized* form of boswellia called **AprèsFlex™** has been introduced that absorbs into the blood **52%** more than previously available boswellia extracts.⁹

Each 100 mg vegetarian capsule of **5-LOX Inhibitor with AprèsFlex™** is standardized to provide 20% of active **AKBA** from boswellia. Most people need only one capsule a day.

A bottle containing **60 100 mg** vegetarian capsules of **5-LOX Inhibitor with AprèsFlex™** retails for \$22. If a member buys four bottles, the price is reduced to just **\$15** per bottle.



Item #01639

To order
5-LOX Inhibitor with AprèsFlex™
call **1-800-544-4440**
or visit **www.LifeExtension.com**

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*It should be noted that although Life Extension's previous 5-LOXIN® formulation contained at least a 30% concentration of AKBA, the new AprèsFlex™ formula delivers more AKBA into the bloodstream, offering greater efficacy at a 20% concentration. AprèsFlex™ has been added to the new ArthroMax™ and Ultra Natural Prostate Formulas.

AprèsFlex™ is a trademark of Laila Nutraceuticals exclusively licensed to PLThomas-Laila Nutra LLC. International patents pending.

Advanced 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.

High-Potency Resveratrol with Synergistic Activators

Life Extension® members gain access to standardized **trans-resveratrol** combined with plant 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 just **\$31** per bottle. The suggested dose of one capsule a day provides:

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

Contains yeast.

Item # 01430

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

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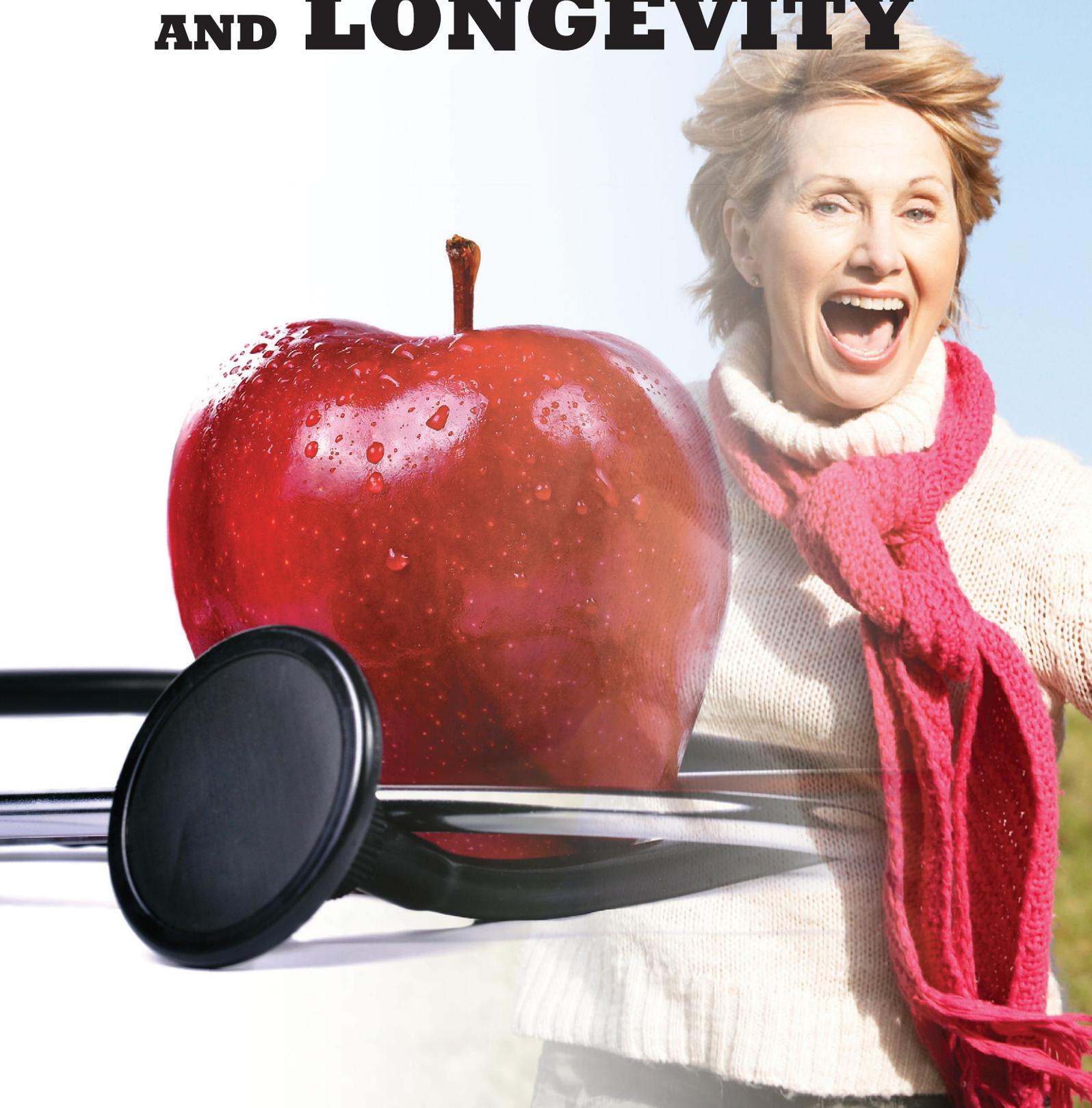
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To order Optimized Resveratrol,
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or visit www.LifeExtension.com

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APPLE POLYPHENOLS AND LONGEVITY





BY GEORGE RANDALL

In the last year alone, scientists from three different laboratories have published studies that demonstrate how polyphenol molecules derived from apples extend life span in various species by as much as 12%.¹

These researchers are unraveling the various mechanisms of action that give apple polyphenols such promise as anti-aging nutrients.

Initial findings show that apple polyphenols modulate multiple signaling molecules to delay the onset of age-related disorders. They may also mimic the actions of calorie restriction, a known antiaging technique. One polyphenol, **phloridzin**, which is heavily concentrated in the skin of the apple, also potently suppresses several processes leading to glycation, another major contributor to aging.

Scientists are discovering why an apple a day may help keep the doctor away. > >

Recent Longevity Research

In three different labs, scientists conducting initial investigations found that the use of apple polyphenols increased the life span of various species by 10 to 12%.¹

While these studies are just the beginning of understanding how apple polyphenols contribute to longevity, they all found remarkably consistent results, despite being conducted in three very different species.

The common yeast, *S. cerevisiae*, is often used in laboratory experiments as a model for understanding the biology of higher organisms because of the great similarity of basic life processes.² When scientists added the unique apple polyphenol *phloridzin* to yeast cells in culture, they found that treated cultures lived an average of 2.3 generations longer than control cultures.²

A closer look revealed why. When yeast cultures were treated with apple polyphenols, it toughened the cells' resistance to oxidative stress, both by inhibiting production of harmful reactive oxygen species and also by ramping up gene expression of vital natural cellular antioxidant systems.² Furthermore, the yeast cultures increased expression of sirtuins, molecules known to trigger calorie restriction-like effects in multiple tissues, contributing to longevity.

Another common model of aging and longevity is the tiny worm known as *C. elegans*, which reproduces rapidly and succumbs to many of the same basic destructive processes as do humans. Treatment with

apple polyphenols extended the life span of natural *C. elegans* by 12%.¹ As with the previous experiment with apple polyphenols, activation of sirtuins' calorie restriction-mimicking effects was evident.

Finally, apple polyphenols have been shown to extend by 10% the life span of the fruit fly, *D. melanogaster*, another commonly-used model of human biological processes and aging.³ Once again, the explanation lies in the activation of a suite of genes that produce natural antioxidant defense systems, and decrease of genes that contribute to death in older animals. Interestingly, in these more complex organisms, apple polyphenols also partially reversed early death and mobility impairment induced by a toxin.³ Loss of mobility is a common characteristic of aging shared across all animal species, and one which is attracting great scientific interest.⁴

The discovery of such similar results, from three independent laboratories using three different models of biological aging, means that the results are somewhat robust and may be applicable to all living things, humans included. But these encouraging studies only scratch the surface of how apple polyphenols function on multiple levels to delay the aging process and reduce lethal degenerative diseases.

The laboratory investigations discussed above do shed light on why large epidemiological studies show that people who consume polyphenols in the highest quantities are protected against conditions such as cancer, cardiovascular disease, and other conditions that are generated by oxidant stress and



inflammation.⁵⁻⁸ For example, those who consumed the largest amounts of flavonoids (found in apples and other fruits) were shown in one study to have up to a **31%** reduction in total mortality.^{9, 10} When intake of apples specifically was examined, that study showed as much as a **43%** reduction in death from heart attacks specifically.⁹

Phloridzin, A Unique Polyphenol

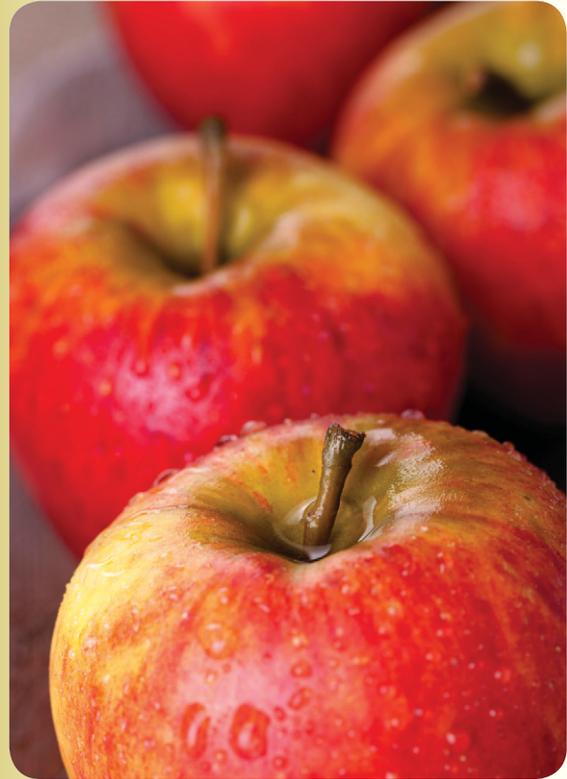
Apples, and especially their skins, contain many of the polyphenols found in other fruits, albeit in considerably higher concentrations.¹¹ Apple skins also contain a polyphenol called *phloridzin*.¹²⁻¹⁴ Phloridzin is especially active against glycation, one of the most common, preventable, and reversible causes of aging.

Phloridzin attacks glycation and its destructive effects at many different levels. For example, almost as soon as you consume a carbohydrate-containing meal that could cause a dangerous post-meal spike in blood sugar, phloridzin goes to work. Studies show that phloridzin inhibits glucose uptake by **52%**.^{13,15}

Phloridzin accomplishes this feat through two distinct mechanisms in the small intestine. First, it inhibits glucose uptake from the intestine's interior into its lining cells.¹⁵ Subsequently, phloridzin blocks the active transport of glucose out of those intestinal lining cells into the bloodstream.^{13,15} The net effect is fewer glucose molecules leaving the intestine to contribute to blood sugar levels.

Some sugar, of course, is inevitably absorbed, and is responsible for formation of the dangerous carbonyl molecules that react with proteins and DNA to form advanced glycation endproducts, or AGEs. Phloridzin prevents formation of those carbonyl compounds;¹⁶ it also traps any remaining carbonyls that are produced, preventing them from reacting with more vulnerable body molecules.^{14,16,17} Phloridzin also protects cells from the inside out. In type 2 diabetes, cells don't efficiently take up glucose, producing dangerous blood sugar elevations that cause so much destruction. But *inside* certain cells, there's too little glucose, contributing to energy depletion and poor function. One consequence is cell membrane disruption that contributes to early cell death and ultimately organ dysfunction. Phloridzin protects those energy-depleted cells' membranes and prevents their death, helping to preserve tissue and organ function.¹⁸

The sum of all these effects is prevention of several major causes of aging, including blood glucose elevations and lipid metabolism disturbances.¹³ The ultimate effect, now demonstrated in laboratory models of aging, is an extension of the life span.^{13-16,19}



Apple Polyphenols

- Aging results from accumulation of tissue damage from just a small handful of reversible causes.
- Oxidant stress, inflammation, and glycation are among the most universal causes of aging.
- Polyphenols derived from apples have powerful effects on preventing and even reversing the effects of oxidation, inflammation, and glycation.
- Apple skins contain a unique polyphenol, phloridzin, that has powerful, multi-targeted effects that mitigate damage caused by high blood sugar.
- These effects produce measurable results in preventing chronic, age-related conditions including cardiovascular disease, cancer, high blood sugar, and even serious infections.

Apple Polyphenols' Unique Fat Management

Various types of fats not only add pounds to our body but can destroy our health by fostering degenerative diseases such as cardiovascular disease, diabetes, and cancer. Getting control of how your body handles fat is an important step in reducing your risk of an early death.

Apple polyphenols demonstrate remarkable capabilities of fat management, as shown by a wealth of human, animal, and laboratory studies in two distinct areas.

The first is in *where* and *how* your body stores its fat.

Fat in your organs, and especially in the lining of your abdomen (known as visceral fat), is a major risk factor for cardiovascular disease, diabetes, and cancer, as part of the metabolic syndrome.^{20,21} Apple polyphenols have been shown to reduce visceral fat accumulations in human studies.

In one study, 45 overweight or obese adults were given **600 mg/day** of apple polyphenols, and their weight and body fat distribution were tracked for 12 weeks.²¹ In that time the control patients gained weight, while supplemented patients lost nearly a pound. Of greater importance, the apple polyphenol-supplemented patients lost about 2 square inches of visceral fat area as measured by CT scans, while control patients gained those same 2 square inches of visceral fat, and about 4 square inches of fat overall.

A similarly-designed study using the same **600 mg/day** dose followed patients for 16 weeks.²² It demonstrated a 9.4 square-inch loss of visceral fat in supplemented patients, an impressive **8.9%** of their baseline area.²² Meanwhile, placebo patients gained 3.3 square inches, or **3.3%** of their baseline amount.

Detailed animal studies demonstrate that loss of total and visceral fat can be at least in part attributed to improved fat utilization by energy-requiring tissues such as muscle, helping them to “burn” fat more effectively while increasing muscle strength.^{23, 24}

The second important area of fat management has to do with *how* your body absorbs triglycerides and cholesterol from your diet, and *in what form* it transports those fats to your tissues.

Animal studies show that apple polyphenols slow triglyceride absorption from the intestine by blocking *pancreatic lipase*, an enzyme specifically required to break down triglyceride fats.^{25,26} Blocking pancreatic lipase causes some triglycerides to pass out of the body in the feces.²⁷ Similar effects in humans could potentially lower total triglyceride levels.²⁷ Apple polyphenols also block cholesterol absorption and interfere

with production of the lipoprotein carrier molecules (LDL and VLDL cholesterol) that are associated with cardiovascular risk.^{28,29}

The effects of lowered intestinal fat absorption are lowered plasma levels of LDL, VLDL, and triglycerides (the “bad” fats) by as much as **70%**.^{21,30,31} Apple polyphenols also reduce the deposition of fats in organs and in the linings of arteries, where atherosclerosis gets started.³⁰ Animals fed apple polyphenols had up to a **17%** reduction in the size of atherosclerotic lesions found in their arteries.³²

Apple polyphenols not only lower plasma total and LDL cholesterol, but animal studies show that they have the potential to raise HDL cholesterol levels, further protecting from atherosclerosis.^{31,33,34} A human study providing **1,500 mg/day** of concentrated apple polyphenols demonstrated a modest rise in HDL cholesterol levels, with significant drops in LDL cholesterol.³¹

One reason that HDL cholesterol is protective is that it is rich in natural antioxidant molecules known as *paraoxonases*. Apple polyphenols can increase paraoxonase activity by as much as **23%**.³⁵ That may explain why apple polyphenols inhibit dangerous lipid peroxidation, the inflammation-generating step that initiates atherosclerosis.





Finally, apple polyphenols lower cardiovascular risk by reducing the “stickiness” of platelets and vessel walls, helping blood slip more readily through arteries.³⁶ That can prevent the formation of dangerous clots.

One cautionary note: Several human studies have failed to show much benefit from consumption of whole apples and even polyphenol-enriched apple juices. One study showed an elevation in triglyceride levels in men who ate whole apples daily for an extended period.³⁷ The reasons aren’t entirely clear, but it is safe to say that the greatest benefits have been shown with concentrated polyphenols derived from apple skins only.

Apple Polyphenols Prevent Colon Cancer by Multiple Mechanisms

Colorectal cancer is the second leading cause of cancer-related deaths in the United States and the third most common cancer in men and in women.³⁸ Apple polyphenols reach the colon in large concentrations, and they show great promise in reducing the burden of this common disease.³⁹ Indeed, large-scale epidemiological studies show that those who consume larger amounts of apple polyphenols can cut their colon cancer risk by nearly **50%**.⁴⁰

Apple polyphenols act by multiple mechanisms against multiple targets in the toxic environment of the colon. They reduce the substantial oxidant stress

Polyphenols and How They Work in Your Body

Polyphenols are large, complex molecules found almost exclusively in plant products. These molecules possess unique chemical characteristics that include the ability to powerfully scavenge reactive oxygen and nitrogen species, blocking oxidative damage that leads to inflammation and the biological aging of tissue.⁷⁷

But polyphenols are more than just free radical scavengers. Depending on the specific type and source, they also potently modulate gene expression.^{1,78} That means that polyphenols with unique characteristics can be chosen to address specific disease processes. Phloridzin, for example, a polyphenol found in apples, is specifically targeted at glycation, the destructive modification of vital proteins by continuous exposure to glucose.¹⁷

under which colon cells must survive, and they scavenge oxygen free radicals, a potent means of reducing cellular and DNA damage.⁴¹⁻⁴³ They also enhance production of natural antioxidant enzymes that colon cells use to protect themselves.⁴⁴⁻⁴⁷

Inflammation typically follows oxidant damage, and is a key event in promoting colon cancer. Apple polyphenols inhibit enzyme systems known as cyclooxygenase and lipoxygenase, both of which produce

Apple Polyphenols Quench Allergic Reactions

Apple polyphenols demonstrate powerful immune modulatory characteristics, which produce convincing anti-allergy effects. Animal and basic laboratory studies show that the polyphenols block release of inflammatory histamine from specialized cells in the skin and mucous membranes.⁷⁹⁻⁸¹ They may also help to prevent development of food allergies.⁸²

Human studies show reduction in symptoms from seasonal allergies such as runny nose and sneezing, when subjects supplement with concentrated apple polyphenols.^{83,84} And a study in children demonstrated a reduction in atopic dermatitis, an uncomfortable skin condition triggered by an allergic response.⁸⁵

inflammatory cytokines.^{41,43,48-51} Apple polyphenols also enhance the rate at which your normal colonic bacteria produce the anti-inflammatory molecule *butyrate* from dangerous long-chain fats.^{27,52,53} *Butyrate* is natural protective element against colon cancer and inflammatory bowel disease.^{54,55}

Many colon cancers are triggered by ingestion of carcinogens in the diet; apple polyphenols promote expression and activity of a range of vital detoxification enzyme systems.^{45,56} Those systems are essential in preventing carcinogenic chemicals from further damaging cells.

Oxidation, inflammation, and toxins all ultimately produce damage to DNA, which is a first step in formation of cancerous cells. Apple polyphenols show powerful protection of colon cells' DNA.^{46,57}

Even once a cancer has formed, animal studies have shown that apple polyphenols can slow or stop its growth through several mechanisms. They block the chemical receptors for a molecule called *epidermal growth factor*, needed by tumor cells to continue their development.⁵⁸ Apple polyphenols have also been shown to reactivate tumor suppressor genes that have been switched off in cancerous cells, restoring their ability to regulate their growth safely.⁵⁹ And they induce the cellular suicide mechanism called apoptosis, which is also often switched off in tumor tissues.^{60,61}

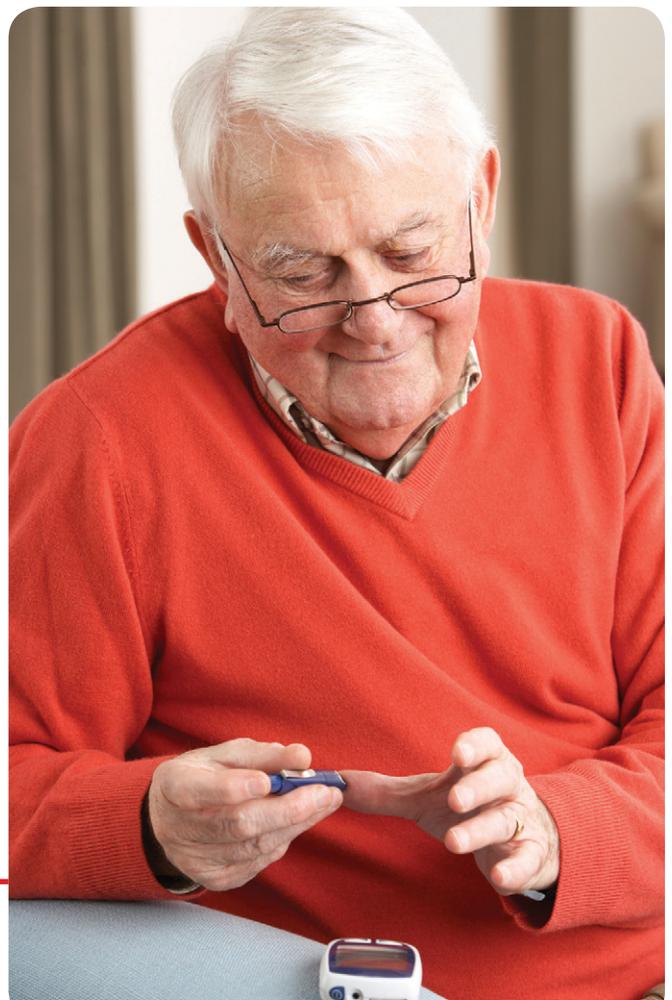
The end result of all these actions is to reduce the out-of-control growth typical of cancerous tissue.⁴² In the lining of the colon, where tumors begin, this is

manifested by a reduction of up to **50%** in so-called *aberrant crypt foci*, the pre-cancerous lesions often found on colonoscopy.^{48,62} And apple polyphenols reduce the numbers of actual pre-cancerous polyps by up to **42%** and their growth rate by as much as **60%** in animal models.⁶³

Apple Polyphenols Lower Blood Glucose, Prevent Glycation Damage

Even very small blood sugar elevations, especially those immediately following a meal, are now known to be a major cause of tissue damage, even in those who are not diabetic.⁶⁴ Glucose, though a vital fuel for life, has substantial toxic effects on your body's proteins over the long haul, producing damaging advanced glycation endproducts (AGEs). Once again, apple polyphenols can help.

Apple polyphenols, especially the unique molecule phloridzin, prevent uptake of glucose from the intestinal tract.^{15,65} They do this by inhibiting certain specific glucose transport molecules in the intestinal lining.^{15,65-68} Animal studies demonstrate significant reductions in overall blood sugar levels.^{13,64,69} One such study also showed that apple polyphenols completely abolished the after-meal surge of blood sugar levels that's known to be so dangerous.⁷⁰





Apple polyphenols also act to block the formation of advanced glycation endproducts, protecting cells from their damaging effects and from the inflammation that can follow.^{19,75} Furthermore, apple polyphenols scavenge dangerous dicarbonyl molecules that promote glycation and accelerate aging.^{3,14}

Most Life Extension members take nutrients like carnosine, benfotiamine, and pyridoxal-5-phosphate to inhibit deadly glycation reactions, but as already described in this article, apple polyphenols have unique beneficial properties that extend beyond their anti-glycation effects.

Apple Polyphenols Boost Immunity, Fight Infection

Infections are all too often the cause of an untimely death in older people, even in today's world of antibiotics. Apple polyphenols are powerful natural antimicrobial agents, and are showing great promise in arresting some of the most threatening infections.

Apple polyphenols bind to toxins produced by the bacterium *Staph aureus*, inactivating them and preventing their deleterious effects.⁷¹ Those effects include deadly conditions such as toxic shock syndrome and massive food poisoning, which is common.⁷² The polyphenols are also active against other common bacterial infections such as *Pseudomonas* and *Bacillus* species, and against so-called "atypical" tuberculosis infections.^{73, 74}

The bacterium *Helicobacter pylori* is the cause of gastritis and stomach ulcers. Apple polyphenols inhibit not only the organism's growth, but also its ability to bind to stomach lining cells, and its

ability to promote inflammation.⁷⁵ These effects have the potential to prevent recurrence of the bacterial infection and its results after conventional medical treatment.

Of greatest interest is the recent discovery that apple polyphenols can protect animals infected with the deadly H1N1 influenza virus, a potential cause of death among elderly people. Stressed animals with the flu died much sooner than did control animals, but those treated with apple polyphenols survived at much higher rates and lived longer.⁷⁶

Summary

Apples, and especially their skins, are among the fruits richest in the specialized molecules called polyphenols. Apple polyphenols, found in high quantities in the apple's skin, exert powerful antioxidant, anti-inflammatory, and anti-glycation effects. Together, these effects combine to protect your body from many of the reversible consequences of aging. Compelling evidence exists for apple polyphenols' ability to prevent, and even reverse changes that produce cardiovascular disease, cancer, elevated blood sugar, and even serious infections.

Since health conscious people today obtain a wide range of polyphenols (such as green tea and pomegranate extracts), a daily dose of **300 mg** to **600 mg** of **apple polyphenols** may be all that is needed to obtain desired benefits. ●

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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Take Control of After-Meal Glucose Spikes With CoffeeGenic™ Green Coffee Extract

Support for 24-Hour-A-Day Healthy Glucose Metabolism

People who take extraordinary steps to limit their **carbohydrate** exposure may *still* be experiencing higher-than-desired blood sugar throughout the day.

The reason? **Blood sugar can surge to dangerously high levels that can last for hours following meals and even the entire day!**

Studies show even in people with normal *fasting* glucose, gaining control of **after-meal** surges may provide additional support for cardiovascular and metabolic health.¹⁻³

To address this widespread problem, a natural compound is now available called **CoffeeGenic™ Green Coffee Extract**. This *next-generation* glucose control compound was shown to induce a remarkable **32%** drop in **after-meal** blood sugar!¹

Multi-Targeted Defense with Novel Green Coffee Compound

At the core of **CoffeeGenic™ Green Coffee Extract's** power to favorably modulate *after-meal* glucose levels is **chlorogenic acid**, a polyphenol found in the **green coffee bean**.

Chlorogenic acid has been shown to *inhibit* excess activity of the **glucose-6-phosphatase** enzyme.^{4,5} This enzyme triggers glucose formation from non-carbohydrate substrates and glycogen release from the liver, both of which can create excess glucose in the blood.⁶ Neutralizing excess **glucose-6-phosphatase** is essential for most people to achieve **optimal glucose control**.

Another means by which **chlorogenic acid** supports healthy after-meal glucose levels is by targeting the **alpha-glucosidase** enzyme. This intestinal enzyme breaks apart complex sugars and enhances their absorption into the bloodstream.⁷

Chlorogenic acid also increases the signal protein for insulin receptors in liver cells.⁸

Patented Extraction Process, Standardized for Maximum Potency

Why *green* coffee bean extract?

Coffee grows on trees and the fruit is a berry. The berry contains green seeds, which are the "beans." The outer part of the berry is washed away to get to the seeds. The seed has a higher amount of **phenolic acids** (50%) than the berry (about 35%).

The problem with the roasted coffee you drink is that much of the beneficial phenolic content of the coffee bean is destroyed during the roasting process.

CoffeeGenic™ Green Coffee Extract is produced through a patented extraction process to deliver an extraordinarily high proportion of **chlorogenic acid** for maximum potency.

The coffee beans sourced for **CoffeeGenic™ Green Coffee Extract** are organically grown.

For optimal benefit, one vegetarian capsule of **CoffeeGenic™ Green Coffee Extract** should be taken before heavy meals. Green Coffee extract is standardized to **50% chlorogenic acid**.

● CoffeeGenic™ Green Coffee Extract (200 mg) • Item # 01604

(Each serving contains approximately 6 mg caffeine)

A bottle containing **90 200 mg vegetarian capsules** of **CoffeeGenic™ Green Coffee Extract** retails for \$25. If a member buys four bottles, the price is reduced to just **\$16.50** per bottle.



Item # 01604

● CoffeeGenic™ Green Coffee Extract (400 mg) • Item # 01620

(Each serving contains approximately 12 mg caffeine)

A bottle containing **90 400 mg vegetarian capsules** of **CoffeeGenic™ Green Coffee Extract** retails for \$38. If a member buys four bottles, the price is reduced to just **\$25.50** per bottle.



Item # 01620

To order any of the
CoffeeGenic™ Green Coffee Extract
formulas, call **1-800-544-4440** or
visit **www.LifeExtension.com**

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Broad Spectrum Benefits of **APPLE POLYPHENOLS**

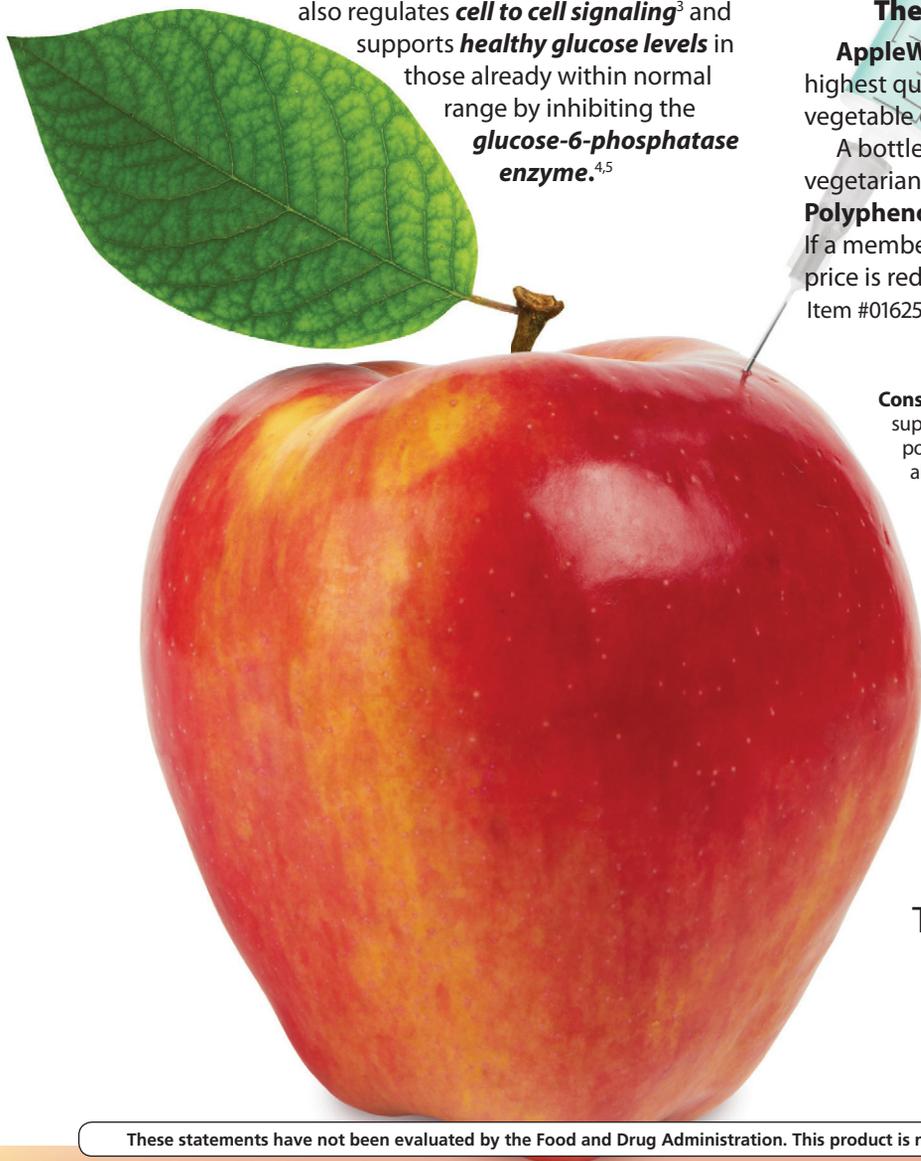
The benefits of **plant polyphenols** are well known to health enthusiasts. These natural plant constituents block oxidative damage that leads to inflammation and accelerated biological aging of tissues.¹

Recent studies by *three separate laboratories* have concluded that polyphenols extracted from **apples** extend life span in laboratory models by up to **12%**.²

Phloridzin: A Unique Polyphenol

Apples, and especially their skin, are rich in an array of polyphenols. One particular major bioactive polyphenol, **phloridzin**, found in the skin of the apple, has been shown to act as a powerful agent against *glycation* and other destructive processes in the body. **Phloridzin**

also regulates **cell to cell signaling**³ and supports **healthy glucose levels** in those already within normal range by inhibiting the **glucose-6-phosphatase enzyme**.^{4,5}



Broad Spectrum Benefits

Apple polyphenols can slow triglyceride absorption from the intestine by blocking pancreatic lipase, an enzyme specifically required to break down triglyceride fats.^{6,7}

Additional research has shown that apple polyphenols can increase the protective antioxidant molecule **paraoxonase** by as much as **23%**, thereby inhibiting dangerous lipid peroxidation and reducing an inflammatory cascade.⁸

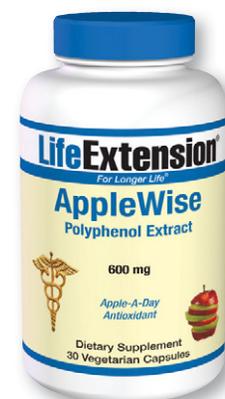
Along with phloridzin, apples contain **chlorogenic acid**. Chlorogenic acid supports **healthy glucose levels** in those already within normal range by inhibiting the **glucose-6-phosphatase enzyme**^{4,5} and by increasing some cellular mechanisms that are stimulated by insulin in liver cells.⁹

The Ultimate Form of Apple Polyphenols

AppleWise Polyphenol Extract is extracted from the highest quality organically grown apples. Each 600 mg vegetable capsule contains **300 mg** apple polyphenols.

A bottle containing **30 600 mg** vegetarian capsules of **AppleWise Polyphenol Extract** retails for \$21. If a member buys four bottles, the price is reduced to **\$14.25** per bottle. Item #01625.

Consumer note: Members taking supplements providing standardized pomegranate and coffee bean extracts, along with anti-glycating nutrients like carnosine, benfotiamine and pyridoxal-5-phosphate may be deriving similar benefits of apple polyphenols.



Item #01625

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To order **AppleWise Polyphenol Extract** call **1-800-544-4440** or visit www.LifeExtension.com



ADVANCED Anti-Adipocyte FORMULA

CELLULAR SUPPORT FOR HEALTHY BODY WEIGHT

If you're struggling to maintain healthy body weight, you're not alone. Up to **65%** of Americans face the same challenge.¹ Even a modest increase in fat pounds can have an impact on overall health, especially when it's stubborn belly or visceral fat.

The problem is that conventional methods to combat *age-related* changes that predispose us to weight gain have proven *ineffective*. Adjustments in diet and lifestyle alone are often not enough. But there's hope . . .

State-of-the-Art Dual Plant Extract Technology

To help maturing individuals deal effectively with this serious health issue, **Life Extension**® introduces a brand new, clinically validated solution: **Advanced**

Anti-Adipocyte Formula with AdipoStat and Integra-Lean® African Mango Irvingia.

AdipoStat is the first dietary intervention to support healthy body weight using these innovative approaches.² Through multiple pathways, it targets the mechanisms by which fat-storing cells or **adipocytes** become bloated and metabolically dysfunctional.

This widely overlooked *cellular* condition leads to excess fat accumulations in the belly and throughout your body.

After careful scientific analysis of over **1,000** plant extracts,² researchers identified the two species included in **AdipoStat** that target adipocytes: **Sphaeranthus indicus** flower (*S. indicus*) and the **mangosteen** fruit (*Garcinia mangostana*).

Optimal results were shown in studies when these two **plant extracts** were combined.

Three Ways to Fight Fat Cell Derangements

AdipoStat functions via the following mechanisms to support healthy body weight:²

1. **AdipoStat** targets adipocyte (fat cell) creation.
2. **AdipoStat** impedes adipocyte growth (adipogenesis).
3. **AdipoStat** induces fat in adipocytes to break down (lipolysis).

Success in Clinical Trials

AdipoStat's performance in clinical studies indicates it can safely deliver impressive results.

In a key study, 30 adults with difficulty maintaining healthy body weight ingested **800 mg per day of AdipoStat** while following a 2,000-calorie-per-day diet and were asked to walk just 30 minutes five days a week. A group of equal size was given placebo.³

After just eight weeks, the **AdipoStat** group:

- Lost **4.05 inches** of harmful belly fat—**2.0** times the placebo group.
- Experienced a **2.05** drop in body mass index (BMI)—**3.9** times over placebo.
- Shed **11.4 pounds** of total body weight—**3.7** times over placebo.

These improvements began to emerge after just **14** days.³

After eight weeks, the **AdipoStat** group saw a noticeable drop in **waist-to-hip ratio**,³ indicating they experienced **fat loss** in the **abdominal** area, where excess fat mass is associated with serious health issues.

They also exhibited favorably elevated levels of a hormone called **adiponectin**.² Adiponectin sends command signals that determine how big your fat cells get, how much they break down (*lipolysis*), and how often they are produced (*adipogenesis*).⁴

A second human clinical trial yielded similar results, confirming **AdipoStat**'s beneficial effects.²

The AdipoStat Formulas

There are two ways you can easily incorporate **AdipoStat** into your daily supplement program.

The first option is to take **AdipoStat** by itself. The daily dose of one vegetarian capsule of **Anti-Adipocyte Formula with AdipoStat** taken 30 minutes before each of the two heaviest meals of the day provides:

AdipoStat Proprietary Blend **800 mg**
(*Sphaeranthus indicus* extract and
Garcinia mangostana extract)

The second option enables consumers to obtain the same dose of **AdipoStat** along with the highly popular **Integra-Lean® African Mango** (*Irvingia gabonensis*). **Irvingia** operates via additional mechanisms to combat surplus fat storage, including inhibition of **glycerol-3-phosphate dehydrogenase**,⁵ an enzyme involved in the conversion of glucose and triglycerides into adipocyte fat storage.

The **Advanced Anti-Adipocyte Formula with AdipoStat and Integra-Lean® African Mango Irvingia** supplies **800 mg of AdipoStat** and **300 mg** of proprietary *Irvingia* extract in the same suggested daily serving of one vegetarian capsule 30 minutes before each of the two heaviest meals.



Anti-Adipocyte Formula with AdipoStat

Item # 01510

A bottle containing **60** vegetarian capsules of **Anti-Adipocyte Formula with AdipoStat** retails for \$35. If a member buys four bottles, the price is reduced to just **\$24** per bottle.



Advanced Anti-Adipocyte Formula with AdipoStat and Integra-Lean® African Mango Irvingia

Item # 01509

A bottle containing **60** vegetarian capsules of **Advanced Anti-Adipocyte Formula with AdipoStat and Integra-Lean® African Mango Irvingia** retails for \$39. If a member buys four bottles, the price is reduced to just **\$27** per bottle.

Integra-Lean® Irvingia is protected by U.S. Patent No. 7,537,790. Other patents pending. **AdipoStat** is a proprietary ingredient derived from natural plant extracts exclusively distributed by InterHealth N.I.

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To order either of the
Anti-Adipocyte Formulas
call **1-800-544-4440** or visit
www.LifeExtension.com

CAUTION: Because this product may lower blood glucose, consult your healthcare provider before taking this product if you are taking glucose lowering medications.

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

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

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

Trimetazidine: **The HEART DRUG**



You've Never Heard Of

BY CARL DEMARCO
PEER REVIEWED BY STEPHEN B. STRUM, MD

Over **82 million** Americans are afflicted with some form of **cardiovascular disease**.¹ It remains the number one cause of death in the US.¹

Given this killer's prevalence, you would think that medical officialdom would ensure maturing individuals have access to *all* available treatment options.

You would be wrong.

Despite over **40 years** of published studies,² a little-known, potentially life-saving heart drug languishes in clinical and regulatory limbo in this country, a drug that **Life Extension**[®] espouses as a compelling target for further research and potential FDA approval.

Available in more than **80** nations around the world, it is unlike any other conventional prescription medication for heart disease on the American market today.

This drug is called as **trimetazidine (TMZ)**.

Also marketed as **Vastarel MR** in Europe, it modulates **mitochondrial** metabolism to energize and *revive* compromised heart tissue. A mountain of

scientific research shows it has the capability to protect vulnerable, oxygen-deprived heart muscle *before a lethal cardiac event takes place*.

In this article you will discover compelling evidence of trimetazidine's cardioprotective power. You will learn of its capacity to *reverse* the deadly impact of **diminished blood flow to the heart**, the principal vascular pathology behind most heart attacks.

Concerns about the lack of long-term data on hard endpoints like heart attack and cardiac mortality make the regulatory path to approval a difficult one for this novel drug. The arduous approval path for a new type of drug to help treat ischemic heart disease is an example of the need to cut burdensome bureaucratic mandates and stimulate the evaluation of better medications for heart disease.

To understand how TMZ affords additional protection for at-risk heart muscle, we begin by outlining the significant limitations and *dangers* of conventional heart drugs. > >

Many Medications But Only One Mode of Action

Cardiac ischemia is the medical condition in which blood flow and therefore oxygen delivery to heart tissue is progressively limited, typically by arterial blockage; this is the origin of most heart attacks. **Angina** is its primary symptom—chest pain often accompanied by a sensation of uncomfortable pressure. Angina is the heart muscle crying out for more oxygen in order to perform its blood pumping function.

It may surprise you to learn that while conventional drugs for cardiac ischemia and angina operate via different mechanisms of action, they induce only one physiological effect: they **lower heart muscle demand for oxygen** by improving blood flow and reducing cardiac workload.³

This approach may not be effective for all individuals with heart disease. The problem? These drugs do not *restore* heart tissue already damaged or dysfunctional back to peak efficiency. The powerhouses known as **mitochondria** in compromised heart muscle cells remain unable to optimally convert fuel into energy for maximum output.⁴

This may account for a chilling statistic: **88%** of patients on conventional medications continue to

suffer chronic angina and remain at risk of further cardiac complications.³

While enlightened individuals may support heart cell mitochondrial function using CoQ10 (ubiquinol),⁵ L-carnitine,⁶ taurine,⁷ magnesium,⁸ PQQ (pyrroloquinoline quinone)⁹ and other nutrients,^{10,11} most patients are not told about them by their cardiologist and optimal dosing seldom occurs. Furthermore, the drug TMZ functions via unique cytoprotective mechanisms to support left ventricular function through enhancing coronary blood flow. By shifting energy substrate utilization to glucose through inhibition of fatty acid metabolism, TMZ offers the potential to enhance cardiac muscle cell ATP levels through pathways that may not be attainable with nutrients alone.

Heart Protection Through a Unique and Powerful Mechanism

By contrast to existing cardiac drugs, TMZ renders heart muscle optimally functional by enhancing energy output, as opposed to reducing workload.¹⁴ This fundamentally distinct mode of action offers aging individuals a complementary and potentially more effective way to ward off heart attack by enhancing the heart's energy producing function rather than weakening the heart.

Conventional Drugs Used in Treating Angina and Ischemic Heart Disease^{3,12}

Drug Class	Examples	Mechanism of Action	Risks and Side Effects
Antiplatelet Agents	<i>Aspirin, clopidogrel</i>	Clot prevention by reduction of blood platelet adhesion to vessel walls	Gastrointestinal bleeding
Beta Blockers	<i>Metoprolol, atenolol</i>	Reduce cardiac workload by reduction in heart rate, blood pressure, contractility ("squeeze")	Low blood pressure, dizziness, wheezing; may increase diabetes risk, ¹³ erectile dysfunction
Angiotensin-Converting Enzyme (ACE) Inhibitors	<i>Captopril, enalapril</i>	Reduce cardiac workload by limiting activity of key enzyme in maintaining blood pressure	Low blood pressure, kidney impairment
Calcium Channel Blockers	<i>Nifedipine, amlodipine</i>	Reduce cardiac workload by reducing contractility ("squeeze")	Slow heart rate, rapid heart rate, dizziness
Nitrates	<i>Nitroglycerin</i>	Increase cardiac blood flow by dilating coronary arteries	Low blood pressure, dizziness, fainting



This outcome is achieved via a novel mechanism of action: the metabolic pathway by which the heart converts fuel into energy is favorably altered.

Here's how it works:

The mitochondria within your heart cells utilize fatty acids to generate the bulk of the energy that fuels heart function; in the presence of disease, the use of fatty acids increases.¹⁵ TMZ enables the mitochondria to utilize more glucose as a fuel source.¹⁶⁻¹⁸

This shift in heart cell metabolism affords benefits.

To burn fatty acids, mitochondria require much more oxygen and produce more waste products than they do when glucose is the energy source.^{16,19,20} Under normal conditions that poses no problem, but ischemic heart tissue rapidly loses efficiency and accumulates acid as it continues to try to power itself from fat.²¹

By converting the preferred fuel source to glucose, fewer damaging acids are produced.^{16,20,22} Studies show that in the presence of TMZ, acid content in ischemic heart cells is much lower, and energy content is much higher, compared to controls.²³⁻²⁵

This results in faster recovery of heart muscle pumping action once blood flow is restored.²⁶⁻²⁸ TMZ treatment in animals with experimental ischemia has also been shown to reduce the size of the damaged area following complete blockage of a coronary artery, while improving the ability of the remaining heart muscle to pump blood.²⁹⁻³¹ In addition, in both animal and human studies, TMZ treatment reduced the incidence of dangerous arrhythmias that frequently occur in the period following an ischemic event.³²⁻³⁵

Of equal importance, TMZ induces these beneficial effects with no negative impact on so-called "hemodynamics," the delicate balance of heart rate, blood pressure, and heart muscle contractility that ultimately determines blood flow.^{16,36} This is in marked contrast to virtually *all* conventional drugs for angina and ischemia, which may produce potentially serious hemodynamic imbalances.

In addition to these lifesaving effects, TMZ increases plasma levels of the heart-protecting compound *adenosine* in patients with angina. Adenosine is essential for cellular energy transfer. The result is called "preconditioning": heart muscle develops a tolerance for limited blood flow instead of *dying* from it.^{16,37}

TMZ also positively influences *gene expression*, increasing production of several signaling molecules involved in regulation of heart muscle contractility.^{16,38} Other signaling molecules involved in *endothelial function* are also favorably influenced by TMZ.^{16,39,40}

TMZ: A Lifesaving Heart Drug

- More than 82 million Americans are afflicted with some form of cardiovascular disease.
- The majority of these individuals suffer from limited blood flow to the heart (ischemia) resulting in chest pain (angina).
- Left untreated, ischemia progresses from cardiac muscle damage to loss of heart muscle (heart attack).
- Conventional heart drugs have limited effectiveness against ischemic heart disease and can produce undesirable side effects on heart rate, blood pressure, and other important parameters of heart health.
- TMZ is a potentially lifesaving drug that acts via a unique mechanism of action, altering heart cell metabolism to utilize glucose instead of fat.
- TMZ consequently protects vulnerable or compromised heart muscle tissue from further ischemic damage in a variety of beneficial ways, including increasing blood pumping action, heart muscle wall thickness, and energy content in heart muscle cells.
- Over 40 years of published studies from around the world support the use of TMZ in the short-term management of ischemic heart disease and heart failure.
- More clinical study of TMZ's long-term safety is needed to gain FDA approval of this potentially lifesaving drug.

Ischemia, Angina, Infarction, Heart Failure: A Lethal Progression

Long before a catastrophic event such as **myocardial infarction** (heart attack) occurs, pathological changes develop in your heart muscle cells. As partial blockage progresses in the heart's **coronary arteries**, blood flow steadily decreases. Tissue that relies on these arteries for blood supply is gradually starved of nutrients and oxygen. Compounding the danger is the singular role the heart plays in overall physiological function: unlike any other muscle, *the heart can never rest*.

The gradual deprivation of blood flow in an area of heart muscle is called **myocardial ischemia**. In its very earliest stages, myocardial ischemia may be asymptomatic. (An electrocardiogram performed under the right conditions may detect its presence.)

As myocardial ischemia worsens, deprived heart muscle results in painful **angina**. Early on, angina may be brought on by exertion or strong emotion, but as the condition progresses less and less effort is required to elicit the symptoms. Patients with angina typically have characteristic findings on an electrocardiogram.

As coronary blood flow worsens, cardiac tissue begins to die. While angina is reversible, this tissue death, known as infarction, is not. A “heart attack” is a **myocardial infarction**: the irreversible destruction of heart muscle. Some individuals may suffer with myocardial ischemia and even myocardial infarctions without the warning of angina.

Even people who survive heart attacks have permanently weakened heart muscle. This can lead to abnormal heartbeats (arrhythmias) and the chronic inability of the heart to pump enough blood (heart failure).

Success in Clinical Studies Across Multiple Heart Health Indicators

TMZ boasts an impressive track record in the acute management of both ischemic heart disease (the events leading up to a heart attack) and congestive heart failure (a major consequence of a heart attack).^{3,41}

One of the earliest signs of ischemic heart disease is a change in electrocardiogram readings conducted during mild exercise. One such measure, known as “ST-segment depression,” indicates heart muscle



lacking an adequate supply of oxygen to meet the demand of increased cardiac workload (ischemia). Several double-blind, placebo-controlled European studies showed that the addition of TMZ to a standard drug such as a beta blocker could prolong the time that patients could exercise before ST-segment depression appeared.⁴²⁻⁴⁴

Unlike ST-segment depression—which is asymptomatic and goes unnoticed in aging individuals with heart disease—the first *noticeable* sign of ischemia is chest pain or angina, which occurs when the heart muscle is under stress due to physical exertion, strong emotions or other factors. Multiple studies reveal that patients treated with TMZ experience fewer episodes of angina and a longer interval before angina onset in exercise tests compared to patients given placebo or other anti-angina drugs.^{42,45} In one particularly impressive study, 50 patients with stable angina were treated with the calcium blocker *diltiazem* with or without the addition of TMZ.⁴⁴ A remarkable **68%** of TMZ recipients experienced fewer angina attacks per week compared with baseline, while only **12%** of the control group exhibited the same response.

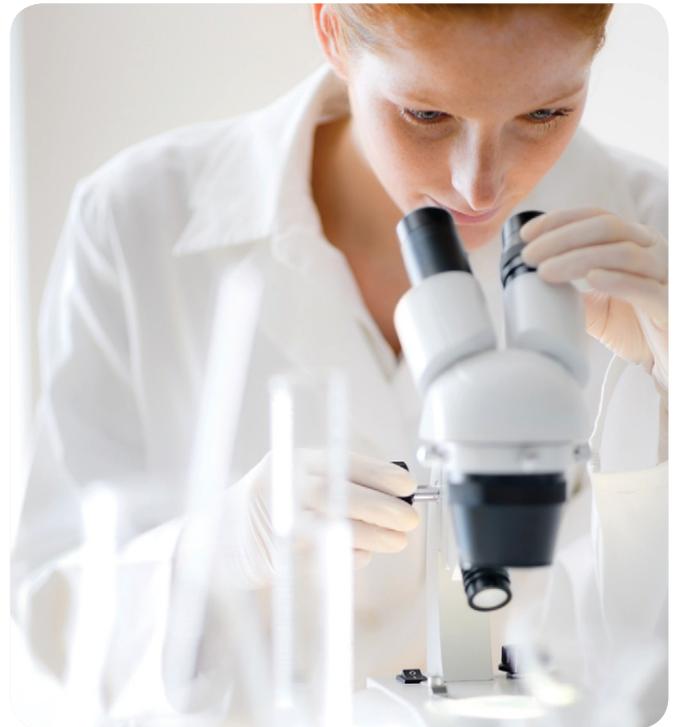
In still more advanced ischemia, patients eventually lose their ability to tolerate even mild exertion. Many studies demonstrate that TMZ can improve the duration of exercise in patients with ischemic heart disease and **peripheral artery disease** (“claudication”).^{44,46-48}

Another measure of the severity of angina is the need for patients to use medications such as nitrates to relieve symptoms. Patients taking TMZ are often

able to significantly reduce their nitrate intake.⁴⁹ When we reduce the number of drugs a patient uses we also decrease the chance of adverse side effects as well as healthcare costs.

Ischemic cardiomyopathy is the term for impaired heart muscle tissue with a reduced capacity to pump blood effectively. Through its beneficial shifts in cardiac metabolism, TMZ *increases* the amount of blood pumped by hearts of patients with severe ischemic cardiomyopathy, at the same time reducing the dysfunctional dilation of the heart's pumping chambers (ventricles).^{40,47,50} After a heart attack and the accompanying loss of heart muscle, there is a sharp decrease in blood pumping ability that often persists after successful intervention. When TMZ is added to the drug regimen of patients undergoing common interventions such as cardiac catheterization and coronary artery bypass grafting, studies show improvements in left ventricular function.⁵¹⁻⁵³ (See graph below.) Left ventricular function is in essence a measurement of the heart's "horse power" i.e., its ability to fire on all cylinders. TMZ also reduces the frequency of angina attacks during cardiac catheterization procedures and lowers markers of heart muscle damage during surgery.^{52,54}

Heart failure often follows a heart attack, though it may develop as the result of chronic ischemia without an actual myocardial infarction. Heart failure



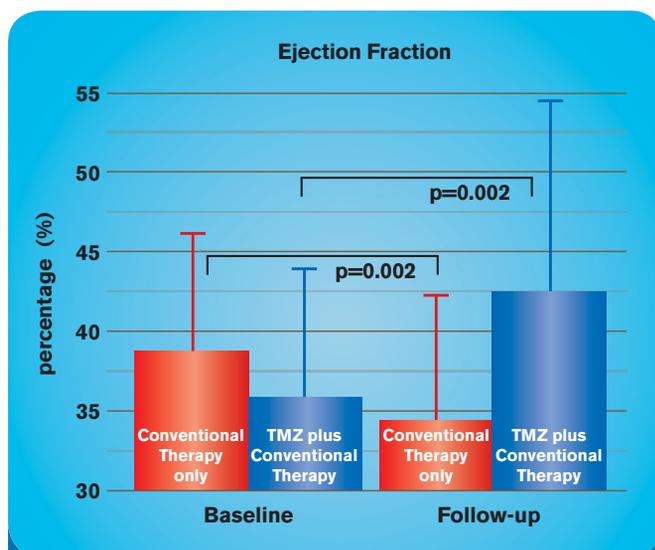
occurs when the heart muscle is unable to meet the body's metabolic demand for blood flow. Its symptoms include loss of exercise tolerance, difficulty breathing, and fluid buildup. The failing heart's pumping chambers are enlarged and exhibit poor muscle contractility.

Studies show that TMZ can improve these and other parameters of heart failure. Patients treated with TMZ exhibit enhanced left ventricular function associated with an *increase* in their heart muscle's energy content.¹⁴

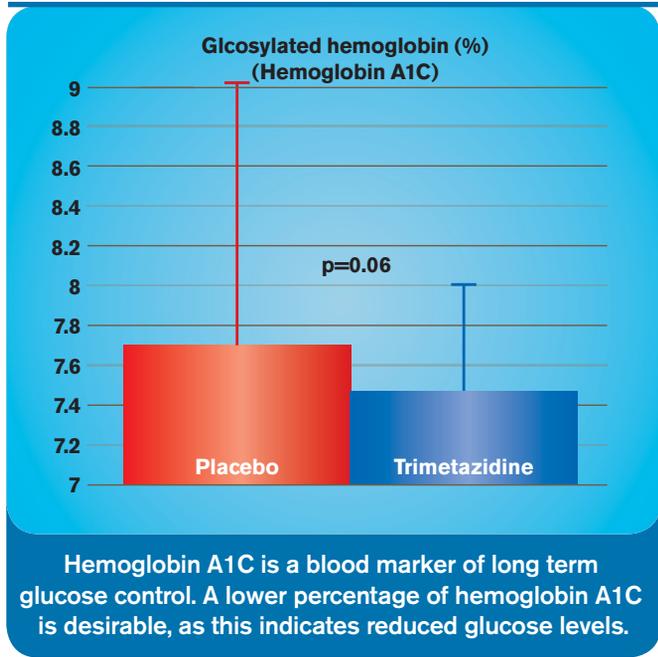
Patients with coronary artery disease who are given TMZ also experience favorable changes in heart wall thickness, pumping action, and oxygen delivery capacity, without unfavorable changes in heart rate or blood pressure.⁵⁵

From the patients' perspective, perhaps the most important index of improvement is how they feel and function in everyday life. Recent studies show that aside from medical parameters of heart health, TMZ *improves quality of life* in patients with heart disease.⁵⁶

TMZ may also particularly benefit diabetics, given its power to induce heart muscle to utilize glucose. Human studies have shown significant decreases in glycosylated hemoglobin (HbA1c) in studies comparing TMZ with placebo in type 2 diabetics.¹⁷ Patients with diabetes have excessively high levels of circulating fats and their hearts are even more likely than those of normal patients to suffer the metabolic effects of fatty acid metabolism.^{15,16,40,57,58}



The ejection fraction is a measurement of the heart's ability to pump blood. This study showed TMZ patients had lower ejection fractions at the beginning but significant improvement in cardiac output occurred after TMZ was initiated. Similar improvements in ejection fraction have been documented in congestive heart failure patients administered 450 mg a day of ubiquinol.⁶⁶



More Long-Term Safety Data Needed for FDA Approval

The good news is that TMZ’s short-term safety profile has been well established in animal and human studies. Unlike conventional drugs, it has no detrimental effects on blood pressure or heart rate.¹⁶

Unfortunately, few studies have been conducted to determine TMZ’s safety profile with long-term use. Those that do exist offer conflicting evidence.

On the positive side of the ledger, one 2009 study followed 153 patients taking TMZ for three years following coronary artery bypass surgery.⁵⁹ They continued to show improvements in their hearts’ blood-pumping ability and in their exercise tolerance, as well as lower overall expenses for treatment, compared to controls.

By contrast, ominous symptoms manifested in a 2011 report describing 21 patients who had been taking TMZ for several years (See sidebar on next page).⁶⁰ Seventeen of these patients had Parkinson’s disease-like symptoms, three had disturbances in range of motion while walking, and one had restless leg syndrome. Sixteen of these patients recovered normal function after going off TMZ, while the other five experienced significant reduction in symptoms after discontinuing TMZ.

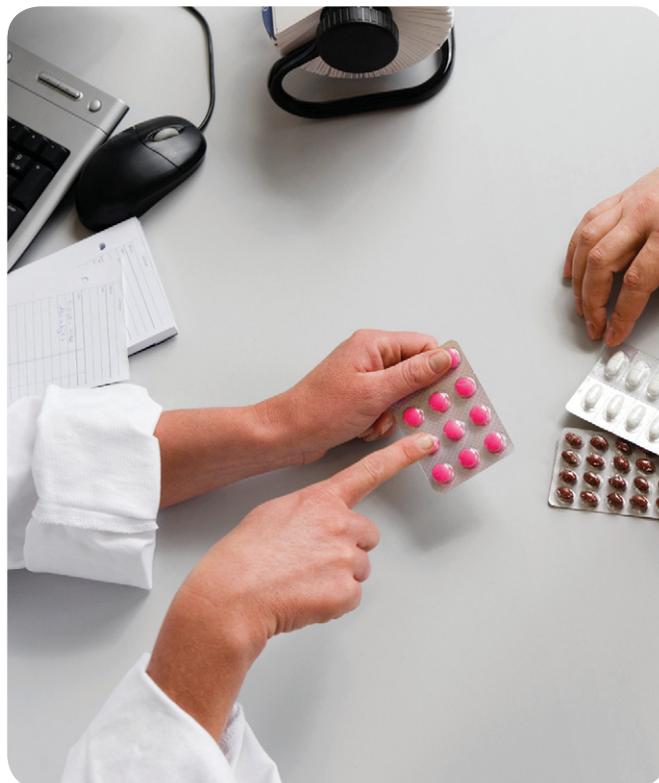
These results represent only a small fraction of the number of people taking TMZ worldwide. Nonetheless, clinical study of TMZ’s long-term safety is warranted. Without such studies this potentially lifesaving heart drug is unlikely to gain FDA approval.³ The need for long-term studies, however, should not preclude the short-term use of TMZ, which could save many American lives.

Summary

Over 82 million Americans are afflicted with some form of cardiovascular disease. The majority of these individuals suffer limited blood flow to the heart (ischemia) resulting in chest pain (angina). Left untreated, ischemia progresses from cardiac muscle damage to heart attack. Conventional heart drugs have limited effectiveness against ischemic heart disease and produce undesirable side effects on heart rate, blood pressure, and other important parameters of heart health.

TMZ is a unique drug that acts via a distinct mechanism of action, altering heart cell metabolism to utilize glucose instead of fat. TMZ has been shown to protect vulnerable or compromised heart muscle tissue from further ischemic damage in a variety of ways, including increased blood pumping action, heart muscle wall thickness, and energy content in heart muscle cells. Over 40 years of published studies from around the world support the use of TMZ in the management of ischemic heart disease and heart failure. A shortage of studies supporting safety of long-term use of TMZ is keeping this potential lifesaving heart drug from being available to Americans—even for short-term use! ●

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



New Questions on Trimetazidine

Trimetazidine (TMZ) was first approved as a cardiovascular drug in Europe in 1965, and has long been considered to have a good safety profile.⁶¹ And indeed, large surveillance studies have shown a rate of general adverse effects similar to those of comparable drugs, neither worse nor better.

Over the past few years, however, concerns have been raised about one particular kind of drug reaction that's common both to trimetazidine and to a host of other drugs with similar chemical structures. The molecular core of all of these drugs (which include many popular anti-seizure, anti-hypertension, and anti-depressant agents) can interact with brain receptors for the neurotransmitter dopamine.^{61,62}

That interaction can cause so-called extrapyramidal symptoms, many of which are remarkably similar to those seen in Parkinson's disease: slow or stiff movements, speech disturbances, and a classical hand tremor at rest. Gait disturbances and loss of equilibrium are also possible.⁶³

Such reactions are more than inconvenient; in older people especially, they can increase the risks of falls and therefore of fractures.⁶⁴

The precise incidence of these reactions is as yet unclear, though it appears to be low and comparable to other drugs that can cause those symptoms.⁶¹ Two studies shed some light on the subject, both involving patients who came to a neurology clinic for their symptoms.

The first study, published in 2005, was conducted to better quantify the risk of drug-induced movement disorders related to trimetazidine.⁶⁵ The researchers tracked the incidence of trimetazidine use and movement problems like drug-induced Parkinson's and tremors in 10,258 patients treated at a neurology

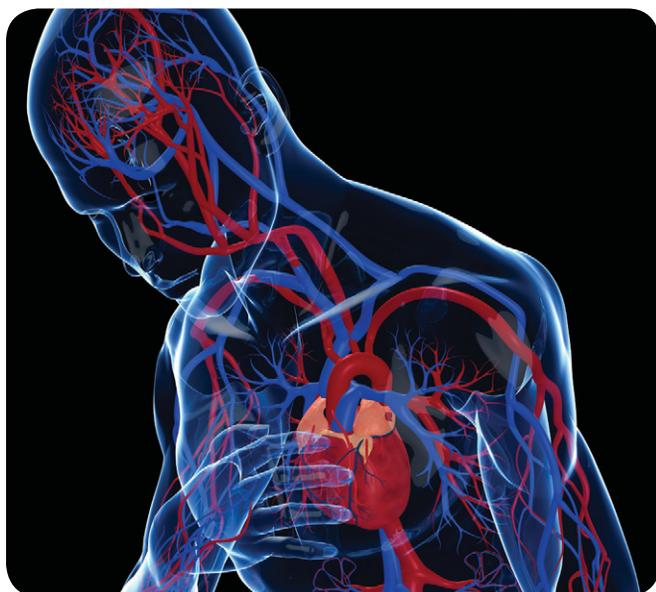
clinic in Europe. Of these 10,258 patients, 130 were treated with trimetazidine, and 56 of these patients (**43%**) experienced an adverse effect on motor function. Drug-induced Parkinsonism was observed in 10 patients (**7.6%**) treated with trimetazidine only, with an additional 10 patients (**7.6%**) simultaneously receiving other drugs potentially capable of inducing movement disorders. Treatment with trimetazidine worsened previously diagnosed Parkinson's disease in 12 patients, and trimetazidine induced tremors in 9 patients. A 2011 study, also of patients coming to a neurology clinic, reports on a series of 21 cases of extrapyramidal symptoms in people taking trimetazidine, all but one of whom had been taking the drug for several years.⁶¹ Seventeen of the 21 subjects had typical Parkinson's-like symptoms, three had gait disorders, and one had restless leg syndrome. Discontinuation of the trimetazidine led to complete resolution of symptoms in 16 patients, and significant reduction in the other five.

Some European authorities now advocate for removal of trimetazidine from the market entirely, claiming that the risk-benefit ratio is unacceptably high.⁶⁴ Others are more circumspect, recommending instead that patients and their physicians monitor for side effects, and discontinue the drug only if and when symptoms occur.⁶¹ Fortunately, in the vast majority of cases reported, withdrawal of the drug leads to rapid resolution of these symptoms.⁶¹ It may be that TMZ should only be prescribed for several months to restore cardiac output in those with severe heart muscle damage. These patients could then initiate or continue taking nutrients like ubiquinol CoQ10, carnitine, taurine, and PQQ for long term maintenance of heart muscle cell mitochondrial output.

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Super Omega-3

EPA/DHA



Item # 01482

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

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

Sesame Lignans and Standardized Olive Fruit Extract for Enhanced Benefits

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

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

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

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

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



Ratings based on results of the 2012 ConsumerLab.com Survey of Supplement Users. More information at www.consumerlab.com.

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

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.

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

EPA Pure+™ Extract (eicosapentaenoic acid)	1400 mg
DHA Pure+™ Extract (docosahexaenoic acid)	1000 mg
Olive Fruit Extract [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

A SMALLER SOFTGEL for easier swallowing!

Some members have requested we make **Super Omega-3** available in a smaller capsule for easier swallowing. We have accomplished this by making **half-size** softgels available.

A bottle containing 240 half-size softgels of **Super Omega-3 EPA/DHA with Sesame Lignans and Olive Fruit Extract** retails for \$32. If a member buys four bottles, the price is reduced to just **\$21** per bottle. If **10 bottles** are purchased, the cost is just **\$18.68** per bottle. (Item # 01619)

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

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How Much Curcumin Are You Absorbing?

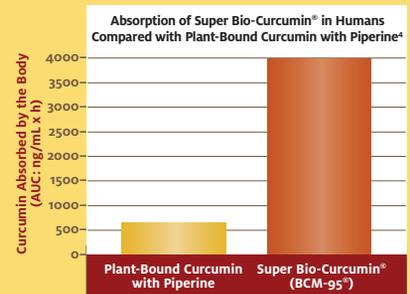


Chart 1. Super Bio-Curcumin® (BCM-95®) showed 6.3 times greater bioavailability (absorption and sustainability over 8 hours) in humans compared with plant-bound curcumin with piperine (as measured by the area under the curve [AUC] in a plot of blood levels against time, that is, the total amount of curcumin absorbed by the body over 8 hours).

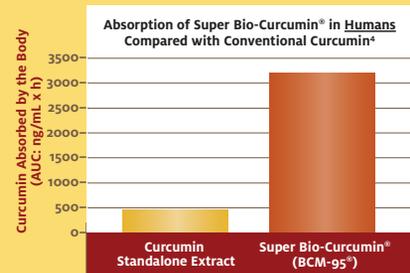


Chart 2. Super Bio-Curcumin® (BCM-95®) showed 6.9 times greater bioavailability (absorption and sustainability over 8 hours) in humans compared with conventional curcumin (as measured by the area under the curve [AUC] in a plot of blood levels against time, that is, the total amount of curcumin absorbed by the body over 8 hours).

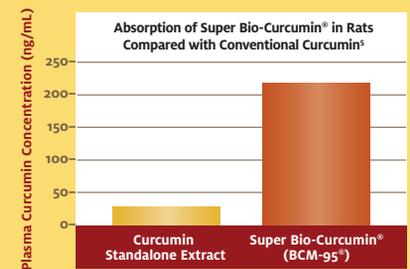


Chart 3. Bioavailability in rats fed with BCM-95® is 7.8 times higher than conventional curcumin.

Curcumin is the health-promoting trace compound derived from the Indian spice **turmeric**. But not all turmeric is alike.

The curcumin found in the vast majority of dietary supplements is derived from turmeric that is **nutritionally inferior**.

Why? Almost all growers harvest turmeric at the point when the turmeric root turns its signature yellow color, but *before* it has fully matured.

The turmeric root requires more time in the ground for highly beneficial phytonutrients called **curcuminoids** and **sesquiterpenoids** to attain peak concentrations.

Life Extension®'s Super Bio-Curcumin® derives from turmeric that is organic, cultivated to maturity, then specially transported and processed to preserve and deliver the root's most complete nutritional profile.

In recent studies comparing the effects of standard curcumin against turmeric extracts comparable to **Super Bio-Curcumin®**, researchers observed:^{1,2}

- Nearly twice the support for **immune** health.
- Approximately twice the support for **inflammatory** issues.
- Almost double the **antioxidant** support.

A separate study indicated that an antioxidant-rich curcumin extract³ provided powerful support for heart health.

Unrivalled Potency and Absorbability with BCM-95®

Curcumin is neither absorbed nor *retained* well in the blood, which is another challenge facing those who wish to maximize its benefits.

The highly popular **Super Bio-Curcumin®** uses **BCM-95®**, a patented, *bioenhanced* preparation of curcumin. It has been shown to reach **7 times higher concentration** in the blood than standard curcumin.⁴

The graphs on this page illustrate that one 400 mg vegetarian capsule per day of **Super Bio-Curcumin®** supplies the equivalent of **2,500-2,800 mg** of commercial curcumin supplements.

A bottle containing 60 vegetarian capsules of **Super Bio-Curcumin®** retails for \$38. If a member buys four bottles, the price is reduced to only **\$26.25** per bottle. **Contains rice.**



Item # 00407

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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, consult your healthcare provider before taking this product.

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Impressive results in anti-aging research mean that one day we may greatly extend human lifespan – but most of these treatments won't be widely available for many years.

Fortunately, daily advances are also being made on what each of us can do NOW to slow the aging process to a minimum, and to delay or prevent the diseases of aging.

Speakers include



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Longevity Physician



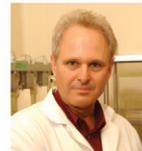
Bill Andrews
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TRIPLE ACTION CRUCIFEROUS

Vegetable Extract with Apigenin



Item #01468



Item #01469

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

Broccoli Super Concentrate	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 only **\$22.20 per bottle**. *Contains corn.*

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

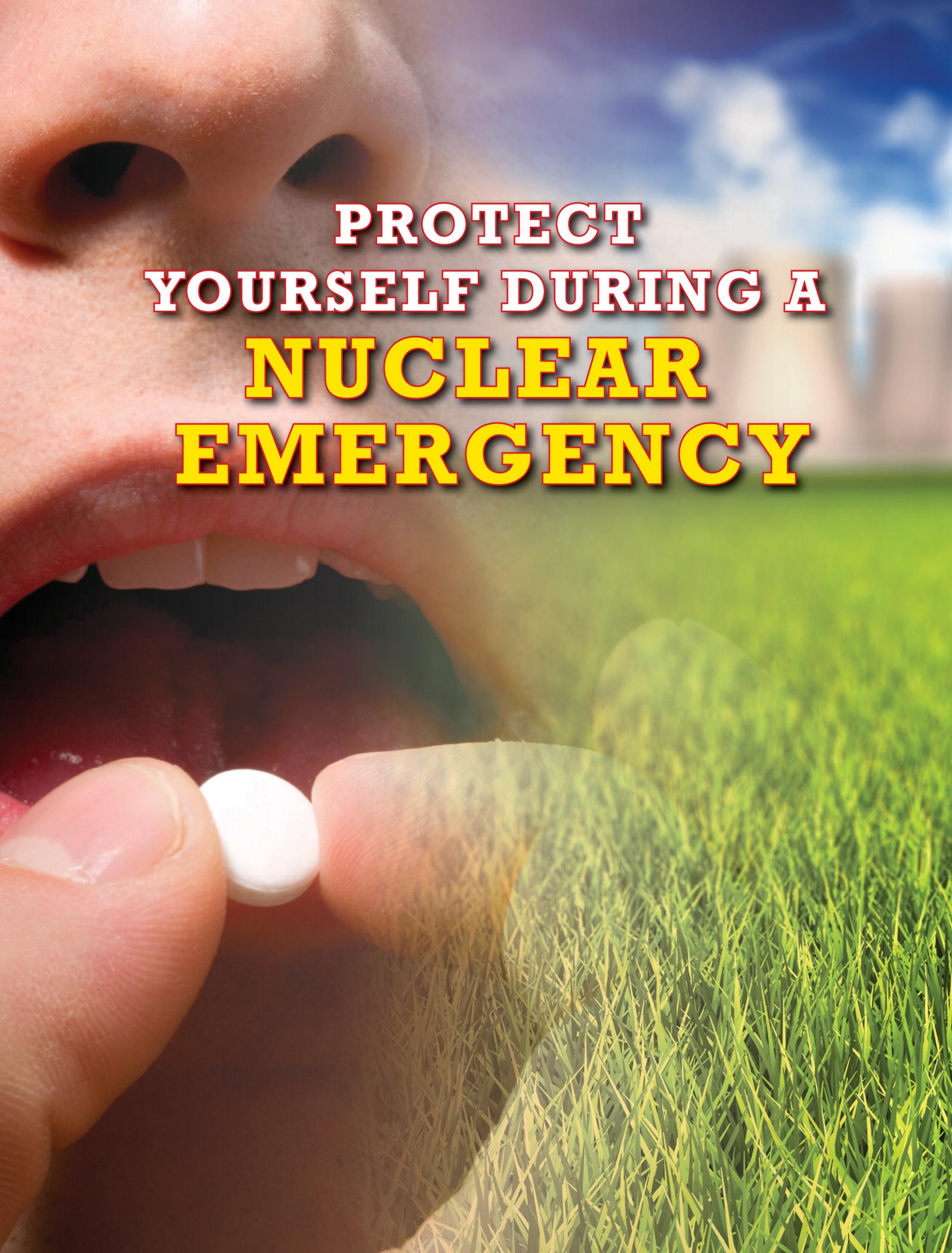
Scientists have identified specific extracts from **cruciferous vegetables**—such as broccoli, cauliflower, cabbage and Brussels sprouts—that help maintain healthy hormone metabolite balance. **Triple Action Cruciferous Vegetable Extract** combines these standardized plant extracts into a comprehensive 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 (potentially toxic, estrogen-like environmental chemicals).¹⁻⁴

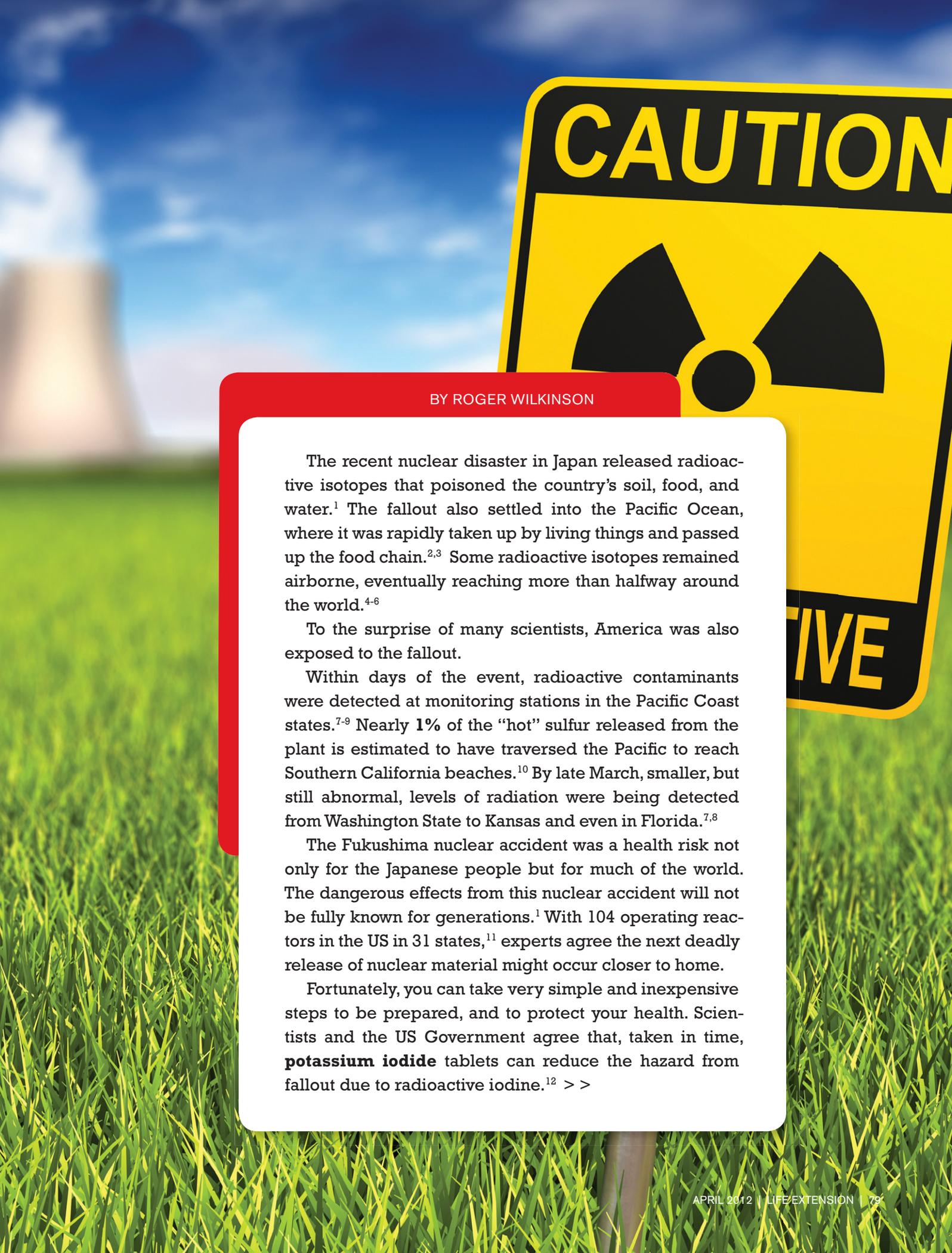
Extracts of **broccoli**, **watercress**, and **rosemary** provide **glucosinolates**, **isothiocyanates**, **carnosic acid**, and **carnosol**—bioactive compounds that have a multitude of favorable effects on estrogen metabolism and cell division.⁵⁻⁸ **Apigenin**, a powerful plant flavonoid found in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

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



**PROTECT
YOURSELF DURING A
NUCLEAR
EMERGENCY**



CAUTION

BY ROGER WILKINSON

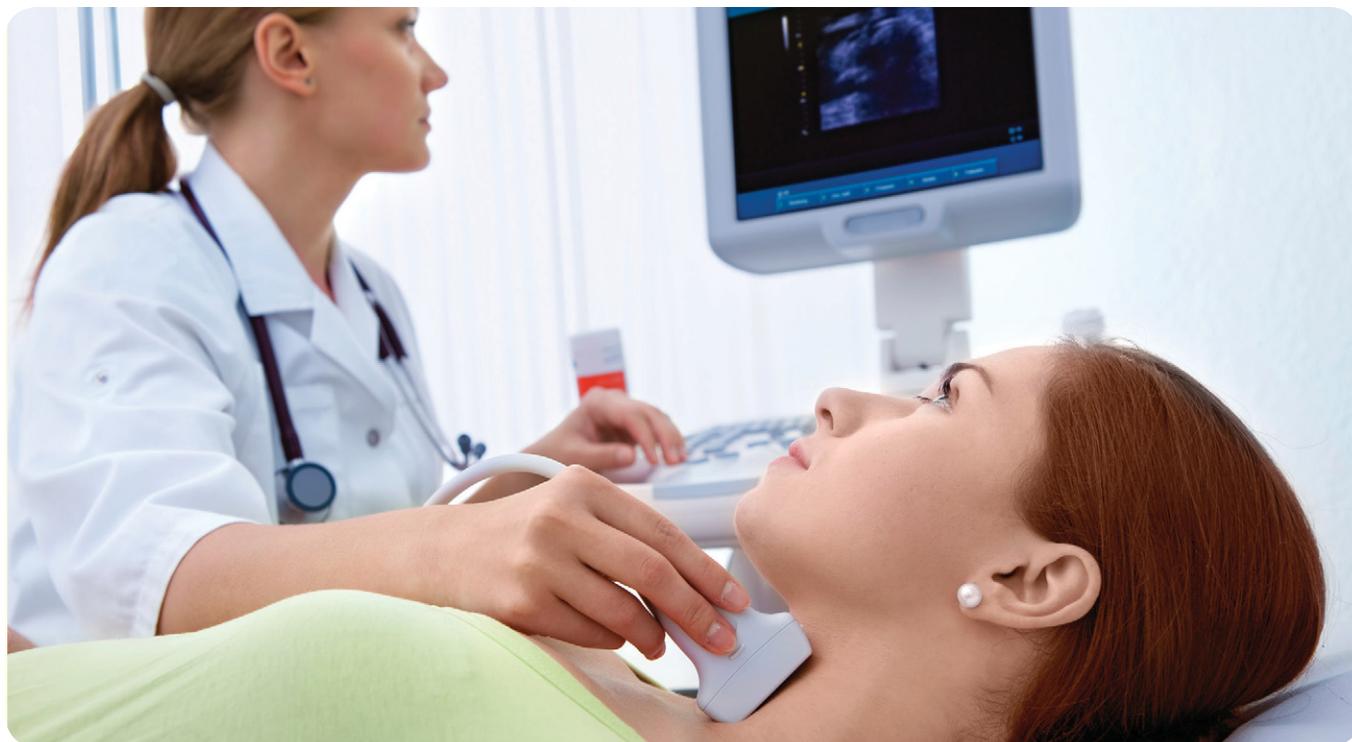
The recent nuclear disaster in Japan released radioactive isotopes that poisoned the country's soil, food, and water.¹ The fallout also settled into the Pacific Ocean, where it was rapidly taken up by living things and passed up the food chain.^{2,3} Some radioactive isotopes remained airborne, eventually reaching more than halfway around the world.⁴⁻⁶

To the surprise of many scientists, America was also exposed to the fallout.

Within days of the event, radioactive contaminants were detected at monitoring stations in the Pacific Coast states.⁷⁻⁹ Nearly 1% of the "hot" sulfur released from the plant is estimated to have traversed the Pacific to reach Southern California beaches.¹⁰ By late March, smaller, but still abnormal, levels of radiation were being detected from Washington State to Kansas and even in Florida.^{7,8}

The Fukushima nuclear accident was a health risk not only for the Japanese people but for much of the world. The dangerous effects from this nuclear accident will not be fully known for generations.¹ With 104 operating reactors in the US in 31 states,¹¹ experts agree the next deadly release of nuclear material might occur closer to home.

Fortunately, you can take very simple and inexpensive steps to be prepared, and to protect your health. Scientists and the US Government agree that, taken in time, **potassium iodide** tablets can reduce the hazard from fallout due to radioactive iodine.¹² > >



Radioactive Iodine and Your Cancer Risk

Iodine-131, known as I-131, is a radioactive isotope commonly released after nuclear power plant disasters. In your body, iodine naturally goes to your thyroid gland, located at the front of your neck.¹³ The thyroid is your body's "thermostat," adjusting your metabolic rate to match your needs. Chemical reactions in your thyroid incorporate iodine into thyroid hormones, which are stored in small globules until needed.

The thyroid's powerful ability to concentrate iodine is what causes trouble when you come into contact with radioactive iodine-131.¹⁴ That radioisotope is a powerful emitter of beta-radiation with a half-life of 8 days.¹⁵ Once the iodine is absorbed, the thyroid can be therefore directly exposed to localized tissue-penetrating beta rays at elevated levels for 2-3 months.¹⁵

As beta rays zip through thyroid tissue, they smash into any molecule in their way, leaving behind reactive ions. The DNA in your thyroid cells is a major target of beta radiation from iodine-131.^{16, 17} As it breaks and is repaired, abnormal DNA sequences can arise, producing mutations that lead to cancer.

Thyroid cancer is therefore the most likely malignant outcome of exposure to iodine-131 following a nuclear accident.¹⁸ We know this all too well in the wake of the 1986 meltdown and explosion at the Chernobyl nuclear plant in the Ukraine. That event

remains the worst nuclear accident in history, exposing more than 5 million people to dangerously high levels of radiation, largely from iodine-131 and radioactive cesium.^{15,19,20} Much of what we know today about thyroid cancer and radiation comes from long-term studies of those people who were unfortunately exposed.^{19,21}

Humans may inhale iodine 131 if they are directly in the path of the radioactive plume streaming from a crippled plant.^{22,23} More commonly, they ingest the radioactive material, which gets into groundwater, then grass, and then the milk and meat of cattle that feed on it.^{15,24} Worrisome levels of iodine-131 were found locally in all of those sources within weeks of the Fukushima disaster.²⁵

Iodine-131 is especially dangerous for children and adolescents, with more than 5,000 known cases of thyroid cancer in those exposed to Chernobyl's effects in their youth.^{20,26,27} New cases continue to arise, demonstrating the very long time-scale on which these cancers develop; an excess rate of thyroid cancers in this population is expected for at least several more decades.^{21,28}

Unfortunately, data on adult exposure are limited and inconsistent.²¹ Although in adults the thyroid gland is less radiosensitive in comparison to children, nevertheless there is evidence to suggest that adults can develop thyroid cancer at excess rates following exposure to iodine-131, but the dose required is

considerably higher.^{18, 29} People who are deficient in iodine at the time of the exposure are at especially high risk, because their thyroids take up the radioactive isotope at twice the normal rate.^{13,15} Because of the drive to reduce salt intake, a surprising number of American adults have low iodine levels; this relative iodine insufficiency negatively impacts overall health, and is an invitation to thyroid damage in the case of radiation exposure to I-131.³⁰⁻³²

Given the risks for people of all ages, it is wisest to be informed and be prepared. Fortunately, a few simple steps are all you need to take to minimize your risk, and that of your loved ones.

What to Do to Protect Your Thyroid in a Nuclear Power Plant Emergency

One of the most important ways to prepare for a nuclear power plant disaster is to have potassium iodide tablets. Generally, these tablets are quite stable with a typical shelf-life of at least three years, so you can obtain them now and keep them in a safe place until needed.²⁴

Ingestion of potassium iodide tablets is a proven strategy to reduce the risk associated with exposure to radioactive iodine.¹⁴ Potassium iodide provides a solid dose of stable, non-radioactive iodine to saturate your thyroid gland.¹⁷ You take it only when a credible threat of a radiation leak is announced. Once the stable iodine saturates your thyroid, there's simply no place for the unstable, radioactive iodine-131 to go, and it is excreted in your urine.³³

Today, potassium iodide "blocking" is considered the most effective means of protecting your thyroid from radioactive iodine-131.¹⁴ It is the only FDA-approved treatment to reduce the risk of thyroid damage due to radioactive fallout from radioactive I-131. Oral potassium iodide is most effective when administered from up to two days *before* and up to eight hours *after* an actual intake of radioactive iodine.¹³

For that reason, disaster management authorities recommend that all people living within a 20-mile radius of a nuclear power plant keep potassium iodide, **130 mg** tablets, on hand in quantities sufficient to treat every household member.^{24, 34}

But given the risks, **Life Extension®** recommends that everyone stock up on these inexpensive, long-lived tablets. Being prepared is crucial. After the recent Japanese nuclear disaster, potassium iodide was in short supply in many countries, including the US, and prices skyrocketed.



What You Need to Know

Radioactivity Risk

- Radiation release from a nuclear power plant accident is a clear and present danger, as demonstrated by the events following the earthquake and tsunami in Japan in March of 2011.
- Large amounts of radioactive material, especially iodine-131, were released from the crippled power station.
- Iodine-131 causes thyroid cancer.
- Iodine-131 and other radiation products from the Japanese reactors have been detected at sites throughout the United States and well into Eastern Europe.
- The continuing operation of more than 100 nuclear power plants in the US makes similar future events all too probable in this country.
- Potassium iodide, taken up to two days before and up to eight hours following contact with radioactive iodine protects your thyroid gland from cancer.
- Know the risks and be prepared ahead of time by stocking up on long-lived, inexpensive potassium iodide tablets.

Here's how to use potassium iodide.^{24, 35, 36}

1. Obtain **130 mg** potassium iodide tablets now.
2. When (and only when) actual release of radioactive material is announced by official sources, adults should take one pill per day.
 “Adult-sized” adolescents (those weighing more than 150 pounds) should take the adult dose of **130 mg**. Children 3-18 should take half a **130 mg** tablet, or **65 mg**.
 Children 1 month-3 years should be given ¼ of a **130 mg** tablet, or **32.5 mg**, dissolved in milk, formula, or water.
 Newborns from birth to 1 month should be given 1/8 of a **130 mg** tablet (16.25 mg) dissolved in formula or water.
3. Continue to dose the potassium iodide once daily until risk of significant exposure (by inhalation or ingestion) no longer exists.

Potassium iodide has not been found to be dangerous when used just as described.³⁷ It should not be taken on a regular basis as a supplement; the dose



of iodine is much too high and excess iodine ingestion on a chronic basis is associated with reduced thyroid function (hypothyroidism) through autoimmune mechanisms.³⁸ During a radiation emergency, however, the FDA has issued this critical guidance: the overall benefits of potassium iodide far exceed the risks of overdosing.³⁶

In addition to keeping potassium iodide available (and accessible), you should follow all food and liquid restrictions issued by the authorities during an emergency. Avoid consuming dairy products and green leafy vegetables harvested in the 3 weeks following a release of radiation (or for as long as officials recommend).^{24, 25}

One final important word of caution regarding radiation disasters. Potassium iodide will protect you from dangerous radioactive iodine-131, a common contaminant released from a nuclear power plant. It does not, however, offer protection against other, longer-lasting, contaminants such as radioactive cesium. These can be released in small quantities from nuclear power plant accidents, and in larger amounts from an actual nuclear explosion or “dirty bomb.” Some protection against these other radioactive isotopes may be derived from the antioxidant supplements that health conscious people take on a daily basis. Those who obtain potassium in their supplements may be afforded a degree of thyroid protection against small amounts of radiation exposure.

Summary

The disastrous events of March 11, 2011, at the Fukushima Daiichi nuclear power station in Japan serve as an important wakeup call to the rest of the world. Like it or not, we depend on nuclear power for a large proportion of our energy needs; that won't be changing any time soon. Further release of radiation from the stricken Japanese plant is by no means

Important Update!

As this article was being finalized, the Nuclear Regulatory Commission said that nuclear power plants in the central and eastern United States face previously unrecognized threats from big earthquakes. New seismic studies will be required for all 96 reactors to determine if the plants can withstand the shaking predicted by the governments's new seismic model.⁴⁴



Fukushima Daiichi Today: Containment or Cover-Up?

The news from Japan keeps getting worse.

After low-balling initial estimates of radiation releases, the Japanese authorities now acknowledge that substantial amounts of radioactive material leaked from the crippled Fukushima Daiichi reactors.³⁹ The danger zone surrounding the reactors was expanded several times in the weeks following the earthquake, but many Japanese citizens say it still isn't big enough.³⁹

In fact, many doubt that the government is providing enough information. Local citizens' groups, armed with personal radiation dosimeters, are fanning out over large swathes of eastern Japan and Tokyo. These groups are finding hot spots surprisingly far from the reactors.³⁹

Reports from Japanese authorities continue to be inconsistent and far from reassuring. In late 2011 a flurry of stories broke, first that the molten material may have reached the last level of containment, threatening a complete breach.⁴⁰ Such a breach could mean a massive release of radioactive material is still to come.

Days later came a report that at least 45 tons of highly radioactive seawater had leaked from the power station, at least some of it reaching the ocean.⁴¹

Despite these reports, on December 14, 2011, the Japanese government declared control of the plant's still-overheating reactors – to immediate condemnation by experts.⁴² Those critics point out that the actual situation within the plant remains unclear, with hot fuel still potentially burning its way out of the containment vessel. Another earthquake, or failure of the temporary cooling system now in place, could spell new disaster, those experts say.⁴²

At last report, the Japanese government was predicting a 40-year-long cleanup effort, acknowledging that some of the robotic technology required had still to be invented.⁴³ The unknowns surrounding this delicate, decades-long procedure make it all the more urgent to keep radiation-blocking potassium iodide tablets on hand, should the unthinkable happen.

impossible. Our own plants, we hope, are less immediately vulnerable, but unforeseen combinations of natural disasters, human incompetence, and even terrorist attacks make radiation release all too real a possibility on our own soil. Many of the deaths and illness among those not immediately in contact with damaged nuclear plants result from exposure to iodine-131 radiation and the thyroid cancers it causes. You can protect yourself today by maintaining a stock of long-lived, inexpensive potassium iodide tablets to take in the event of a nuclear disaster. ●

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. Each capsule of **Mega Green Tea Extract** provides more polyphenols than are found in three cups of green tea.

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

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



Item # 00953

Item # 00954

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

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

Top Off Your TESTOSTERONE *Naturally*

Low Testosterone Levels May Lead to:
Reduced Sex Drive • Less Energy
Cloudy Thinking • Weight Gain
Cardiovascular Issues

Maintaining healthy testosterone levels is one of the most important steps you can take to regain your health and improve your performance. With research showing that by the time a man is 60 years old, he may produce 60% less testosterone than he did in his 20s, the time is now to add Life Extension®'s Super MiraForte with Standardized Lignans to your supplement regimen.



Each daily dose of Super MiraForte with Standardized Lignans contains the following testosterone supporting ingredients:

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



Item # 01315

The retail price for a bottle of 120 capsules of **Super MiraForte with Standardized Lignans** is **\$62**. If a member buys four bottles, the price is reduced to **\$42** per bottle.

Super Health. Super Libido.
Super MiraForte.

To order **Super MiraForte with Standardized Lignans** call 1-800-544-4440 or visit www.LifeExtension.com

Contains corn. Bioperine® is a registered trademark of Sabinsa Corp. HMRlignan™ is a registered trademark used under sublicense from Linnea S.A.

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.

Potassium Iodide Tablets



Item#00577

Life Extension® has developed a potassium iodide supplement containing 130 mg of potassium iodide. Tablets are scored for easy breakage should the need arise for doses of less than 130 mg.

The retail price for a box of 14 tablets of Potassium Iodide is \$6.95. If a member buys four boxes, the price is reduced to only **\$3.94** a box.

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

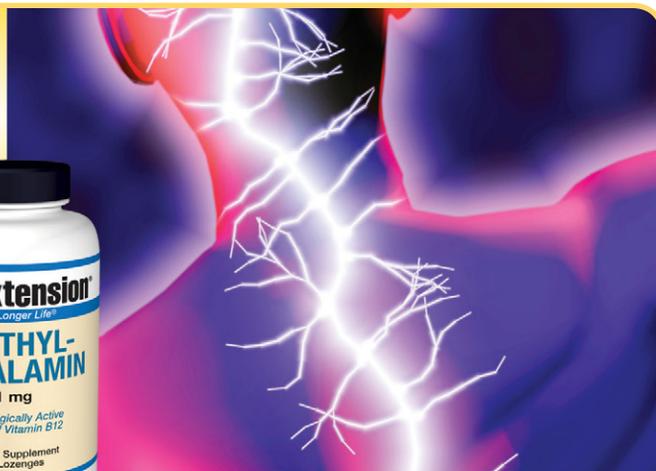
The Neurologically Active Form of VITAMIN B12

Methylcobalamin is the form of **vitamin B12** active in the **central** and **peripheral nervous system**.

Methylcobalamin has been shown to protect against glutamate-induced "excitotoxic" neuronal damage. For fastest absorption and utilization, hold lozenge in mouth until completely dissolved.

The Life Extension Foundation Buyers Club imports this pharmaceutical-grade **methylcobalamin**, the neurologically active form of vitamin B12, at remarkably low prices. Methylcobalamin lozenges come in a **good-tasting natural vanilla flavor**.

To order vanilla-flavored **methylcobalamin lozenges**, call 1-800-544-4440 or visit www.LifeExtension.com



Item # 01536

Methylcobalamin 1 mg dissolve-in-mouth lozenges

	Retail	Member
60 lozenges	\$9.95	\$7.46
Four bottles	\$32	\$6 each



Item # 01537

Methylcobalamin 5 mg dissolve-in-mouth lozenges

	Retail	Member
60 lozenges	\$ 32	\$24
Four bottles	\$100	\$18.75 each
Ten bottles	\$230	\$17.25 each





BY GARY GOLDFADEN, MD, AND ROBERT GOLDFADEN

Activate Self-Renewing Skin Stem Cells

Maintaining more luminous skin is dependent upon your body's unique ability to replace dead skin cells. This vital process of continuous self-renewal depends on the activity of **epidermal stem cells**.

The epidermis (upper skin layer) has been shown to replace itself in just 20 days in young adults, compared to 30 days in middle-aged adults.¹ Unfortunately, this rate of renewal *dramatically* declines after age 50.

The exciting news is that the decline in the skin's capacity to renew itself may be safely slowed or even reversed.

Researchers have found that when applied to the skin, a novel, patent-pending preparation of cultured stem cells derived from the **Alpine rose** may *stimulate* epidermal stem cell activity.²

In this article, epidermal stem cells' role in skin beauty is detailed, along with supportive data on Alpine rose stem cells' ability to *activate* the skin's innate power of self-renewal. > >

The Alpine rose (*Rhododendron ferrugineum*) thrives in the Swiss Alps and the Pyrenees where it endures high altitudes, extreme cold, dry air, and high levels of ultra violet radiation.

This plant's ability to withstand harsh environmental stress factors such as freezing temperatures, drought, and scorching UV rays prompted researchers to investigate the Alpine rose as a source of protection for *human* skin cells. Like the Alpine rose, human skin cells must resist a host of environmental stressors and lock in essential fluids. Skin that performs this barrier function well is more resilient and less likely to develop fine lines and wrinkles or show other signs of aging.

The skin functions as an essential barrier to protect the body from microbial invaders, toxins, the ravages of weather, dehydration, and mechanical trauma. This protective function is governed by stem cells. There are two broad classes of stem cells: **pluripotent embryonic stem cells**, which have the capacity to develop into *any* cell type, and **adult stem cells**, which can differentiate to become some or all of the specialized cell types present in a specific tissue or organ. The adult stem cells in the skin reside in the deepest layer of the epidermis, close to hair follicles.

Epidermal stem cells help to facilitate the turnover of all skin cells, replenishing their supply and maintaining a continuous equilibrium of skin cells in all stages of their life cycles. Epidermal stem cells have relatively slow turnover compared to other skin cell types, but it is their tremendous reproducing potential

that gives the skin the remarkable capacity to renew itself completely.³ These types of stem cells also are vitally important for repairing the skin after injury and enabling wound healing.⁴

The researchers found that applying selected plant stem cell extracts to the skin, specifically those cultured from the Alpine rose, offers protection to the epidermal stem cells, prolonging their lives, increasing their colony-forming efficiency and enhancing their function. These potent plant stem cells from the Alpine rose appear to *stimulate* the skin's own epidermal stem cell activity, revitalizing it and boosting its capacity for **repair** and **self-renewal**.

These newly *activated* skin cells may then engage in the important functions of manufacturing the proteins and lipids needed to repair damaged skin and thus help maintain elasticity and resilience by protecting skin cells from damage. The newly activated cells produce skin that has a fresh, more radiant, appearance.

Research Produces Promising Results

The number of colonies that stem cells are able to form is a measure of their vitality and activity. Stem cells are evaluated in terms of their colony-forming efficiency (CFE). Epidermal stem cells treated with an Alpine rose stem cell extract have shown a better ability to form colonies than untreated stem cells. The epidermal stem cells' colony-forming efficiency increased by as much as **75%** when treated with a 0.15% Alpine rose stem cell extract.²



In an in vitro study, treated and untreated epidermal stem cells were exposed to UVA and UVB light. The treated stem cells were better able to maintain their integrity and were protected from UV-induced stress. The treated cells were able to maintain their healthy colony-forming efficiency even in the presence of UV radiation, which would normally be expected to reduce colony-forming efficiency.

In a recent clinical trial, 22 subjects ranging in age from 20 to 52 applied a sunscreen with SPF 30 to one half of the face and the same sunscreen fortified with a 0.4% Alpine rose stem cell extract to the other half of the face. This application was repeated three times each day for 16 consecutive days. The subjects' skin was evaluated for transepidermal water loss prior to treatment, and on day 3 of the study the subjects went on a week-long ski holiday in the Alps. One week after the conclusion of the holiday—day 17 of the study—the subjects' skin was reevaluated.

The study investigators found that transepidermal water loss was **42% lower** on the side of the face where the sunscreen fortified with Alpine rose extract was applied.²

The same study also used white light photography and trained observers to assess specific skin characteristics including wrinkles, redness, and radiance before and after treatment. Observers reported that wrinkles were less visible in **45%** of the subjects and **54%** of participants had more radiant skin on the side treated with the Alpine rose extract. Half of the subjects reported that their skin treated with the Alpine rose preparation showed greater overall improvement compared to the untreated side in terms of reduced irritation and improved protection from the cold exposure. Subjects treated with the Alpine rose noticed visible improvement in the appearance of wrinkles and fine lines.

Summary

Your skin's capacity to replace dead skin cells with new ones is important to maintaining youthful-looking skin. This process of continuous self-renewal is governed by epidermal stem cells. With advancing age, stem cell activity dramatically declines and the skin's capacity for **self-renewal** diminishes. **Stem cells** from the Alpine rose—a hardy flowering shrub that thrives in cold, dry winters high in the Swiss Alps—may protect the skin from environmental stress and damage by activating **epidermal stem cell activity**.

The epidermal stem cells' ability to form colonies—a key measure of their vitality—increased by as much as **75%** when treated with a 0.15% Alpine rose stem

ALPINE ROSE



Activate Self-Renewing Skin Stem Cells

- Your skin's capacity to replace dead skin cells with new ones is critical to maintaining healthy, youthful-looking skin.
- This process of continuous self-renewal is governed by epidermal stem cells.
- With advancing age, stem cell activity dramatically declines and your skin's capacity for self-renewal diminishes.
- Stem cells from the Alpine rose—a hardy flowering shrub that thrives in cold, dry winters high in the Swiss Alps—may protect the skin from environmental stress and damage by activating epidermal stem cell activity.
- The epidermal stem cells' ability to form colonies—a key measure of their vitality—increased by as much as **75%** when treated with a 0.15% Alpine rose stem cell extract.
- Skin treated with an extract of Alpine rose stem cells is better able to resist environmental stress and support natural, healthy self-renewal.
- Visible improvements were also observed in reduction of wrinkles, fine lines, and irritation, with better response to changes in temperature and humidity.

Harvesting The Potent Power of Renewal

Slice into a fruit or plant and the liquid that flows from it is teeming with undifferentiated stem cells brimming with epigenetic memory—heritable changes that cause a gene to express itself differently but do not change its DNA sequence—and phytonutrients. For example, along with pluripotent stem cells, the liquid coursing through the Alpine rose contains proteins called **dehydrins**, which coat other proteins and membranes with a layer of water, helping the plant to retain moisture and survive dry, drought-like conditions.⁵ These *dehydrins* can help skin remain hydrated. Alpine rose also contains numerous flavonoids⁶—compounds best known for their antioxidant activity and protection from free radical damage. They're also called “natural biological response modifiers” because of their ability to adapt and moderate the body's reaction to microbes—allergens, viruses, and carcinogens.

The active constituents of the Alpine rose plant are highly prized and the plant is registered in the Swiss database of medicinal plants. Historically, its extracts

have been used in formulations to relieve pain and discomfort associated with changes in humidity. Threatened by global warming, which has reduced the snow that protects the plant throughout the winter, the Alpine rose is considered at risk for extinction and some Swiss cantons prohibit picking the flowers or plants. Fortunately, obtaining stem cells requires very small amounts of plant material so it does not further jeopardize this rare, endangered rose.

To collect the plant stem from the Alpine rose, the leaves are pierced to create a wound. Wounding the plant prompts adjacent cells to dedifferentiate, reverting to their stem cell state, in order to heal the wound. The plant's mass of wound healing tissue is known as a callus, and it's these callus cells that are harvested and cultivated. The Alpine rose stem cells are subjected to very low temperatures, which acclimatizes them to the cold. The cell walls are then mechanically disrupted to release their contents, which are then siphoned into liposomes—microscopic spheres used to deliver substances into cells.

cell preparation. Research reveals that skin treated with Alpine rose stem cells is better able to resist environmental stress and support natural self-renewal. Skin treated with Alpine rose stem cells also visibly improved in terms of reduction of wrinkles, fine lines, and irritation, and was better able to respond to changes in temperature and humidity. ●

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

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

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

Super K formula provides in just one daily softgel:

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



Item # 01224

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

Contains tree nuts (coconut).

Warning to Coumadin® (warfarin) Drug Users

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

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

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Unleash the Power of the Milk Thistle Seed

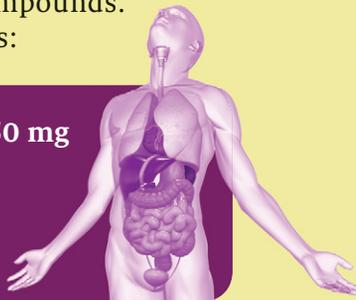


Milk thistle extract has long been thought of as one of nature's most potent weapons to support *human health*, but until recently, the technology hasn't been available to fully harness this plant's potential. Among the compounds waiting to be unlocked are a slew of *nourishing antioxidants* and flavonolignans valued for their role in *ensuring healthy liver function*.^{1*}

Life Extension® has uncovered an advanced extraction technology that has enabled scientists to isolate silymarin constituents and to test their efficacy against various cell lines. Among the compounds tested, silymarin constituents **isosilybin A and B** proved to be the most efficient in maintaining healthy cell division.²

Certified European Milk Thistle is the first milk thistle extract to contain standardized, high potencies of **silymarin, silibinins, and isosilybin A and B**—providing the full spectrum of milk thistle's liver and and prostate protective compounds. Each capsule of this advanced formula provides:

Milk Thistle (*Silybum marianum*) Extract (seed) 750 mg
[std. to 80% Silymarin (600 mg),
30% Silibinins (225 mg),
and 8% Isosilybin A and Isosilybin B (60 mg)]



Item # 01522

A 60 vegetarian capsule bottle of **Certified European Milk Thistle** retails for \$34. If a member buys four bottles, the cost is reduced to only **\$22.50** per bottle—a **savings of nearly one third!**

Compare the price of **Certified European Milk Thistle** to commercial silymarin supplements, and members will see that this new formula is available at one of the lowest costs per milligram—with standardized concentrations of **silibinins** and **isosilybin A and B** not found in other milk thistle extracts!

Contains rice.

Reference

1. *Pak J Pharm Sci*. 2008 Jul;21(3):249-54
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To order **Certified European Milk Thistle**
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.

Protect Skin Against Environmental Stress

Harsh environmental stressors such as *UV rays, wind, and dryness* can cause healthy skin to **prematurely age**, leading to *wrinkles, fine lines*, and other signs indicating a *loss of youth*. The ravages of weather, dehydration, and toxins in the air also weaken the skin's ability to act as a barrier against the outside world.

Scientists have long sought a solution to strengthen the skin from such onslaughts and may have found their answer in the **Alpine rose**, a highly resistant flower that thrives in some of the most difficult conditions on earth, high in the Swiss Alps and Pyrenees. There, the Alpine rose endures high altitudes, freezing temperatures, dry air, and high levels of UV radiation.

Plant Stem Cell Technology

These stressors would quickly destroy the plant if it weren't for its "resistance-charged" stem cells, which are scientifically classed as *totipotent*—meaning they are able to *continuously regenerate cells throughout life*, allowing these plants to live more than **100 years!**^{1,2}

The good news is that when scientists extracted cultured stem cells from the Alpine rose, *they had the same protective effect on human skin as they did with the plant's own flowers!*

Skin Protection for All Conditions

In a recent clinical trial, 22 subjects ranging in age from 20 to 52 applied a sunscreen with SPF 30 to one half of the face and the same sunscreen fortified with a 0.4% Alpine rose stem cell extract to the other half of the face. The study investigators found that transepidermal water loss was **42% lower** on the side of the face where the sunscreen fortified with Alpine rose extract was applied. Observers also reported that on the side treated with the Alpine rose extract, wrinkles were less visible in **45%** of the subjects and **54%** of participants had more radiant skin.

Luminous Skin

Epidermal skin cells are responsible for skin cell replenishment—and as we age, our epidermal cells take **50%** longer to be replaced.³ One scientific study showed that epidermal stem cells' ability to form colonies – a key measure of their vitality – increased by as much as **75%** when treated with a 0.15% Alpine rose stem cell extract—even when exposed to UV radiation, indicating their potential for renewal. This means that skin treated with an extract of Alpine rose stem cells is better able to fend off environmental stress and support vibrant skin.

A 1 oz jar of **Stem Cell Cream with Alpine Rose** retails for \$66. If a member buys two jars, the cost is just **\$43.50 each**.

Item#80143

References

1. *Nature*. 2002 Feb 14;415(6873):751-4.
2. *Cell*. 2005 Aug 26;122(4):499-504.
3. *J Gerontol*. 1983 Mar;38(2):137-42.



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WELLNESS PROFILE

BY STEPHEN LAIFER



© PHOTOGRAPH BY JUSTIN KNIGHT

Nobel Prize Winner Sets Sights on Longevity

How does a Nobel Prize winner in physics go about extending his own life? In the case of Frank Wilczek, he takes supplements based on scientific research. Wilczek won the 2004 Nobel Prize in physics for his part in work on quantum chromodynamics, the theory that describes how fundamental particles called quarks and gluons interact to form the protons and neutrons at the heart of an atom. The Nobel was awarded for work he did as a 21-year-old graduate student at Princeton University. He is also known, among other things, for the discovery of asymptotic freedom, the invention of axions, and the exploration of new kinds of quantum statistics (anyons).

Wilczek won the 2004 Nobel Prize in physics for his part in work on quantum chromodynamics.

WELLNESS PROFILE

But don't let such heavy-sounding topics scare you away from what Wilczek has to say, as he has made a living explaining the unexplainable to not only students in his classes at MIT, where he is the Herman Feshbach Professor of Physics, but also to the general public. His ability to take complex topics and whittle them down to an easily understandable idea is why Wilczek has enjoyed a level of mainstream success by packing auditoriums for his lectures and penning successful books, such as his newest offering, *The Lightness of Being*, which tackles mass, ether, and the unification of forces.

What's this have to do with extending life? While many of Wilczek's theories may take decades or longer to prove or disprove, he is putting his own personal theories

about supplements, lifestyle, and diet to the test to try and live longer right now. The feature that follows is what happens when a mind of the quality of Wilczek's turns its attention to human longevity.

Extending Life

Around five years ago, Wilczek says he made a conscious decision to increase his supplement intake. He currently takes a daily multivitamin, along with several different forms of resveratrol; both grape skin and seed extracts as well as a high-potency commercial resveratrol supplement. Wilczek is also a proponent of B12 (cobalamin), folic acid, and various minerals including magnesium and selenium. "I don't take these in megadoses, because they can add up,"

he points out. Alpha-lipoic acid provides antioxidant benefits and energy, while choline supplements help enhance his brain function. He also focuses on his diet: "A lot of berries, salmon, and broccoli, among other known healthy foods."

Most of what he takes was decided on only after careful research. "I'm careful to follow authoritative sources that lean the same direction with statements about a supplement," Wilczek says, adding that he never takes anything that may have disputes over safety. "With disputes over efficacy, the bar is somewhat lower," he laughs. "I'm willing to try things that have at least plausible efficacy, because, well, maybe they do work. And if not, then at least they have a good placebo effect."

For a scientist, he has a surprising way of evaluating the effects of his supplementation routine: "I feel good, and people tell me I look good," he says simply. "I see pictures of myself from five years ago, and I think I look better today." For more concrete evidence, he points to his exercise regimen. "I've been able to take on more strenuous activity every year since I started the supplement regimen." He also notes that at 57 he hasn't suffered any serious disease, and has been remarkably free of colds and flu, much more so than before taking supplements.

The Future

Wilczek believes things like supplements are decisively adding to his quality of life. Might they also be extending it? Futurist, inventor, and fellow MIT alum Raymond Kurzweil states that by 2030 biomedical technology will have advanced to the point where it will be possible to halt



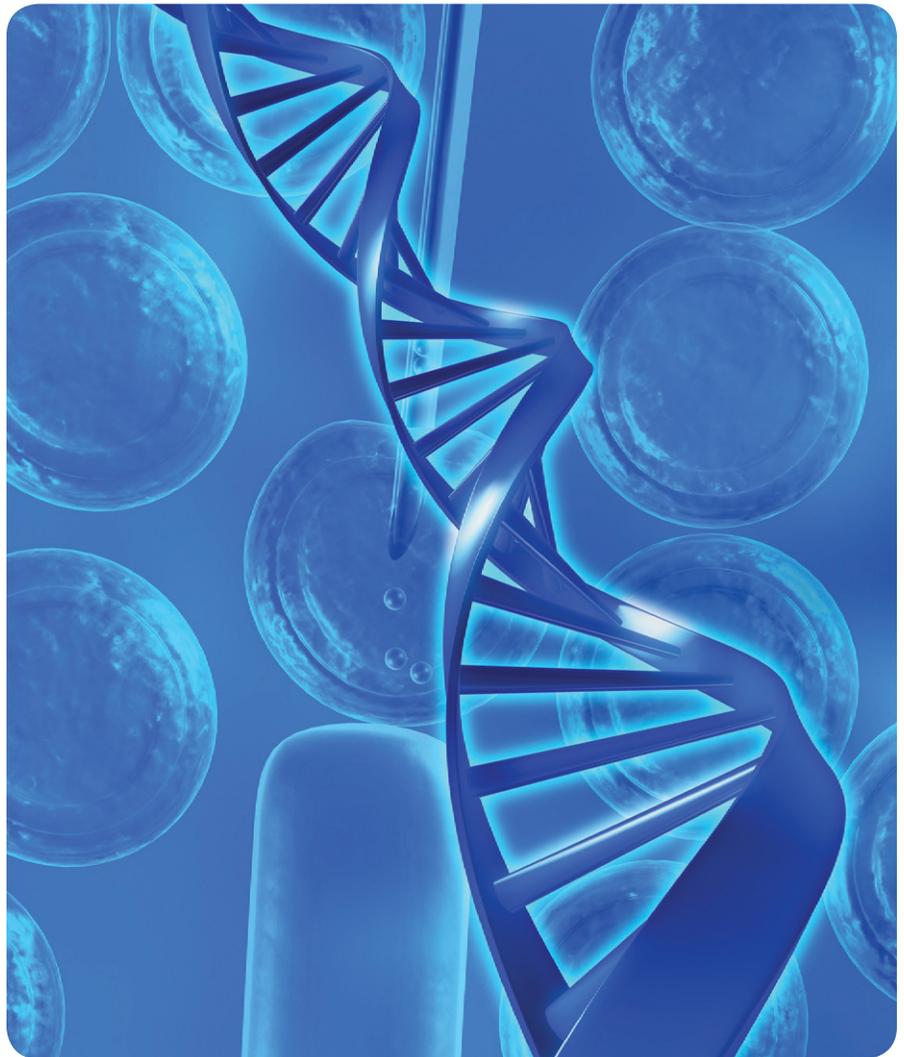
the body's aging process. Wilczek feels that while Kurzweil's speculations are in the right spirit, his timetable may be off.

"I think he's optimistic about how soon these things will occur," says Wilczek. "With biotechnology, computer science, and our understanding of the natural world progressing by leaps and bounds, we will certainly be able to address the processes underlying aging and correct them, maybe even eventually reverse them." Wilczek believes that real progress will be measured when life expectancy increases by one year every year. "I'd be very surprised if we got there in the next 10-20 years, but I'd be equally surprised if we didn't get there in the next 100. Obviously, that's probably not soon enough to do the job for anyone currently alive."



Dr. Wilczek's Supplement Profile

- Resveratrol
- B12 (cobalamin)
- Folic Acid
- Magnesium
- Selenium
- Alpha-lipoic acid
- Choline



Wilczek finds other ideas of Kurzweil's even more intriguing. "The concept of downloading your memory or the contents of your brain to something like a hard drive is visionary, but we're nowhere near having the required technology, if it's even physically possible. We really don't understand what memory is. It's fragile and dynamic." Cryogenics on the other hand holds promise, he says, especially with physical components. "There are tough structures in the human body which are basically digital, for example DNA molecules, that can be reconstructed," Wilczek says. "I can easily imag-

ine it would be possible to clone organs, or even a human being." But true immortality? "That's a very different kettle of fish. But I hope Kurzweil's right!" ●

Learn more about
Dr. Frank Wilczek and his work at
www.frankwilczek.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.

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Blood Testing The Ultimate Information

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| <p>COMPREHENSIVE PANELS</p> <p>○ MALE LIFE EXTENSION PANEL (LC322582) \$269</p> <p>CBC/Chemistry Profile DHEA-S
Homocysteine TSH for thyroid function
Free Testosterone Total Testosterone
Estradiol SHBG
PSA (prostate-specific antigen)
C-Reactive Protein (high-sensitivity)</p> <p>○ FEMALE LIFE EXTENSION PANEL (LC322535) \$269</p> <p>CBC/Chemistry Profile DHEA-S
Estradiol Homocysteine
Progesterone TSH for thyroid function
Free Testosterone Total Testosterone
C-Reactive Protein SHBG (high sensitivity)</p> <p>○ MALE WEIGHT LOSS PANEL (LCWLM)* \$299</p> <p>CBC/Chemistry Profile DHEA-S
Insulin PSA
Free Testosterone (prostate-specific antigen)
Estradiol Total Testosterone
Free T3 TSH
C-Reactive Protein Free T4
(high sensitivity) SHBG</p> <p>○ FEMALE WEIGHT LOSS PANEL (LCWLF)* \$299</p> <p>CBC/Chemistry Profile DHEA-S
Progesterone Insulin
Free Testosterone Total Testosterone
Estradiol TSH
Free T3 Free T4
C-Reactive Protein SHBG (high sensitivity)</p> <p>○ MALE HORMONE ADD-ON PANEL (LCADDM)* \$155</p> <p>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.</p> <p>○ FEMALE HORMONE ADD-ON PANEL (LCADD)* \$125</p> <p>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.</p> <p>○ LIFE EXTENSION THYROID PANEL (LC304131) \$75</p> <p>TSH, T4, Free T3, Free T4.</p> <p>○ MALE HORMONE RE-TEST PROFILE (LCRTM)* \$275</p> <p>CBC/Chemistry Profile, DHEA-S, Dihydrotestosterone (DHT), Estradiol, PSA, Pregnenolone, Total and Free Testosterone, and TSH. Continual monitoring of hormone levels is necessary for men seeking to maintain optimal blood level values.</p> <p>○ FEMALE HORMONE RE-TEST PROFILE (LCRTF)* \$250</p> <p>CBC/Chemistry Profile, DHEA-S, Total Estrogen, Pregnenolone, Total and Free Testosterone, Progesterone, and TSH. Continual monitoring of hormone levels is necessary for women seeking to maintain optimal blood level values.</p> | <p>○ THE CBC/CHEMISTRY PROFILE (LC381822) \$35</p> <p>OVER 40 PARAMETERS TESTED</p> <p>CARDIOVASCULAR RISK PROFILE
Total Cholesterol Cholesterol/HDL Ratio
HDL Cholesterol Estimated CHD Risk
LDL Cholesterol Glucose
Triglycerides Iron</p> <p>LIVER FUNCTION PANEL
AST (SGOT) Total Bilirubin
ALT (SGPT) Alkaline Phosphatase
LDH</p> <p>KIDNEY FUNCTION PANEL
BUN BUN/Creatinine Ratio
Creatinine Uric Acid</p> <p>BLOOD PROTEIN LEVELS
Total Protein Globulin
Albumin Albumin/Globulin Ratio</p> <p>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</p> <p>BLOOD MINERAL PANEL
Calcium Sodium
Potassium Chloride
Phosphorus Iron</p> <p>NOTE: CBC/Chemistry profile is included in the Male and Female Life Extension panels and Weight Loss Panels.</p> <p>○ GENERAL HEALTH</p> <p>○ HEMOGLOBIN A1C (HBA1C) (LC001453) \$31</p> <p>Hemoglobin A1C evaluates long-term blood sugar control. Serum glucose sometimes reacts with important proteins in the body rendering them nonfunctional. Since this process, known as glycation is one of the leading theories of aging, Life Extension[®] believes everyone should check their A1C level.</p> <p>○ VITAMIN D (25OH) (LC081950) \$47</p> <p>This test is used to rule out vitamin D deficiency as a cause of bone disease. It can also be used to identify hypercalcemia.</p> <p>○ FOOD SAFE ALLERGY TEST (LCM73001) \$174</p> <p>This test measures delayed (IgG) food allergies for 95 common foods. NEW</p> <p>○ GLUCOSE, TWO-HOUR POSTPRANDIAL (LC002022) \$25</p> <p>This test measures the amount of a type of sugar, called glucose, in your blood. This test measures blood glucose exactly 2 hours after eating.</p> <p>○ OMEGA SCORE™™™ (LCOMEGA) \$131.25</p> <p>Provides valuable information on your risk of developing heart disease, sudden heart attack, and cardiac death. The Omega Score™ also includes your AA:EPA ratio, allowing you to determine and track a major factor in total body inflammation.</p> <p>○ COQ10* (COENZYME Q10) (LC120251) \$145</p> <p>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.</p> |
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* 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.

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This test is to measure adrenal function. | \$39 | <input type="radio"/> CARDIAC RISK
Lp-PLA2 (PLAC TEST)* (LC123240)
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. | \$125 |
| <input type="radio"/> ADRENOCORTICOTROPIC HORMONE (ACTH)* (LC004440)
A pituitary function test useful in evaluating adrenocortical dysfunction. | \$91.50 | <input type="radio"/> C-REACTIVE PROTEIN (HIGH-SENSITIVITY) (LC120766)
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. | \$42 |
| <input type="radio"/> DHEA-SULFATE (LC004020)
This test shows if you are taking the proper amount of DHEA. This test normally costs \$100 or more at commercial laboratories. | \$61 | <input type="radio"/> GALECTIN-3 (LC004110)
Heart failure is a condition caused by a combination of diseases or factors that damage or overwork the heart muscle, resulting in its inability to pump blood efficiently to meet the requirements of the organs of the body. Galectin-3 is used as an aid in assessing chronic heart failure. | \$399 <small>NEW</small> |
| <input type="radio"/> DIHYDROTESTOSTERONE (DHT)* (LC500142)
Measures serum concentrations of DHT. | \$99 | <input type="radio"/> FIBRINOGEN* (LC001610)
High levels of this blood-clotting factor increase the risk of heart attack and stroke. | \$31 |
| <input type="radio"/> ESTRADIOL (LC004515)
For men and women. Determines the proper amount in the body. | \$33 | <input type="radio"/> HOMOCYSTEINE (LC706994)
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| <input type="radio"/> INSULIN-LIKE GROWTH FACTOR BINDING PROTEIN 3 (IGFBP3) (LC140152)
Elevated levels in hypertensive individuals have been associated with a nine-fold increase of carotid arteriosclerosis. | \$47 | <input type="radio"/> VAP™ TEST (LC804500)
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. | \$90 |
| <input type="radio"/> INSULIN FASTING* (LC004333)
Can predict those at risk of diabetes, obesity, and heart and other diseases. | \$42 | <input type="radio"/> MALE HEALTH
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Can provide an early warning sign for prostate disorders and possible cancer. | \$31 |
| <input type="radio"/> PREGNENOLONE* (LC140707)
Used to determine ovarian failure, hirsutism, adrenal carcinoma, and Cushing's syndrome. | \$116 | <input type="radio"/> BONE HEALTH
OSTEOCALCIN* (LC010249)
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. | \$91 |
| <input type="radio"/> PROGESTERONE (LC004317)
Primarily for women. Determines the proper amount in the body. | \$55 | <input type="radio"/> FREE-PSA (INCLUDES TOTAL PSA)* (LC480780)
Recommended to determine if an elevated PSA is indicative of prostate cancer. | \$61 |
| <input type="radio"/> SEX HORMONE BINDING GLOBULIN (SHBG) (LC082016)
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| <input type="radio"/> SOMATOMEDIN C (IGF-1) (LC010363)
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| <input type="radio"/> TOTAL AND FREE TESTOSTERONE (LC140103)
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DHEA Complete
GH Pituitary Support Day Formula
GH Pituitary Support Night Formula
Melatonin
Melatonin Timed Release
Natural Estrogen with Pomegranate Extract
Pregnenolone
ProFem Cream
Pure IGF
Super Miraforte with Standardized Lignans

IMMUNE ENHANCEMENT

Agave Digestive-Immune Support
AHCC® (Active Hexose Correlated Compound)
Aloe Vera Force™
Buffered Vitamin C Powder
Echinacea
Enhanced Life Extension Whey Protein
i26 Hyperimmune Egg
Immune Protect with PARACTIN®
Lactoferrin
Lifeshield® Immunity™
Maitake SX-Fraction
Norwegian Shark Liver Oil
Optimized Fucoidan w/Maritech® 926
Primal Defense™
ProBoost™ Thymic Protein A
Pure Gar™
Sambu® Guard
Supercritical Oreganoforce™
Thymic Immune Factors
Ultimate Flora Advanced Immunity
Vitamin C with Dihydroquercetin
Zinc Lozenges with Vitamin C

INFLAMMATORY REACTIONS

Arthro-Immune Joint Support
ArthroMax™ with Theaflavins
Boswella
Boswella™ Topical Cream
Bromelain (Specially-coated)
DHA 240
Emulsified Norwegian Cod Liver Oil
Emulsified Super Twin EPA/DHA
Fast Acting Joint Formula
Ginger Force
Kril Oil
5-LOX Inhibitor w/AprèsFlex™
Mega EPA/DHA
Mega GLA with Sesame Lignans
MSM
Natural Relief 1222™ Cream
Omega-3 Chewables
Serraflazyme
SODzyme™ with GliSODin® and Wolfberry
Super Omega-3 EPA/DHA with Sesame
Lignans & Olive Fruit Extract
Tart Cherry
Udo's Choice Oil
Zyflamend Easy

LIVER HEALTH

Branch Chain Amino Acids
N-Acetyl Cysteine
Liver Force
Liver Efficiency Formula
Certified European Milk Thistle
Hepatopro
SAME
Silymarin

MINERALS

Biosil
Bone Restore
Bone Strength Formula w/KoAct®
Bone-Up™
Boron Capsules
Calcium Citrate with D3
Chromium Ultra

Products

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

MISCELLANEOUS

Blender
Blood Pressure Monitor Arm Cuff Medium
Cell Sensor Gauss Meter™
CR Way Edition Advanced Dietary Software
Empty Gelatin Capsules
LifeShield® Breathe™
The Capsule Filler Machine

MITOCHONDRIAL SUPPORT

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

MOOD RELIEF

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

MOUTH CARE

Advanced Oral Hygiene
Mist Oral III™ with CoQ10
Mouthwash w/Pomegranate
Toothpaste

MULTIVITAMIN

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

PET CARE

Cat Mix
Dog Mix

PROSTATE & URINARY HEALTH

BetterWOMAN®
Optimized Cran-Max® with UTIRose™
5-LOXIN®
(Water-Soluble) Pumpkin Seed Extract
Super Saw Palmetto with Beta-Sitosterol
Super Saw Palmetto/Nettle Root Formula
w/Beta-Sitosterol
Ultra Natural Prostate Formula

SKIN CARE

Advanced Under Eye Serum with Stem Cells
Amber Self MicroDermabrasion
Anti-Aging Mask
Anti-Glycation Serum
Antioxidant Rejuvenating Foot Cream
Antioxidant Rejuvenating Foot Scrub
Antioxidant Rejuvenating Hand Cream
Antioxidant Rejuvenating Hand Scrub
Anti-Redness & Blemish Lotion
Cellulite Suppress™ Formula
Corrective Clearing Mask
DermaWhey
DNA Repair Cream
Dual-Action MicroDerm Abrasion
Elastin Collagen Body Firming Lotion
Essential Plant Lipids Reparative Serum
Face Master® Platinum
Face Rejuvenating Antioxidant Cream
Enhanced FernBlock® with Sendara™
Fine Line-Less
Hair Suppress Formula
Healing Formula All-in-One Cream
Healing Mask
Hyaluronic Facial Moisturizer
Hydrating Anti-oxidant Face Mist
Hydroderm®
Lavilin Underarm Deodorant
Lifting & Tightening Complex
LifeShield® Reishi
Melatonin Cream
Mild Facial Cleanser
NaPCA w/Aloe Vera
Neck Rejuvenating Antioxidant Cream
New Face Solution
Peel Off Cleansing Mask
Pigment Correcting Cream
(Ultra) Rejuvenex®
Rejuvenex® Body Lotion
Rejuvenex® Factor
Rejuvenating Serum
Resveratrol Anti-Oxidant Serum
Skin Lightening Serum
Skin Restoring Ceramides w/Lipowheat™
Skin Stem Cell Serum
Stem Cell Cream w/Alpine Rose
Supercritical Omega 7™
Sun Protection Spray
Total Sun Protection Cream
Ultra Rejuvenex®
Ultra RejuveNight® w/ Progesterone
Ultra RejuveNight® w/o Progesterone
Ultra Lip Plumper
Ultra Wrinkle Relaxer
Under Eye Refining Serum
Under Eye Rescue Cream
Vitamin C Serum
Vitamin D Lotion
Vitamin K Healing Cream

SOY

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

SPECIAL PURPOSE FORMULA

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

Ideal Bowel Support 299
Maitake SX-Fraction™
Migra-eeze™
Natural Female Support
Organic Total Body Cleanse
Pecta-Sol®
Potassium Iodide
PQQ Caps with BioPQQ™
PteroPure™
Prelox® Natural Sex for Men®
Pyridoxal 5' - Phosphate
Rosmarinic Acid Extract
Ultra Prostate w/AprèsFlex™ Standardized Lignans

SPORTS PERFORMANCE

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

VITAMINS

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

WEIGHT MANAGEMENT

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

Buyers Club Order Form

To order call: 1.954.766.8433 or 1.800.544.4440

No.		Retail Each	Member Each	Qty	Total
A					
00449	ACETYL-L-CARNITINE - 500 mg, 100 caps	\$34.00	\$25.50		
	Buy 4 bottles, price each	30.00	22.50		
00788	ACETYL-L-CARNITINE ARGINATE - 100 caps	59.00	44.25		
	Buy 4 bottles, price each	50.99	38.24		
01308	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		
	Buy 4 bottles, price each	53.33	40.00		
*46925	ALLI® REFILL PACK - 120 caps	69.95	58.00		
01375	ALOE VERA FORCE™ - 60 veg. caps	31.95	23.96		
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		
01510	ANTI-ADIPOCYTE FORMULA w/ADIPOSTAT - 60 veg. caps	35.00	26.25		
	Buy 4 bottles, price each	32.00	24.00		
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		
00105	APPLE PECTIN POWDER - 227 grams	14.75	11.06		
	Buy 4 bottles, price each	13.75	10.31		
01625	APPLEWISE POLYPHENOL EXTRACT - 30 veg. caps	21.00	15.75		
	Buy 4 bottles, price each	19.00	14.25		
01039	ARGININE/ORNITHINE - 500/250, 100 caps	16.00	12.00		
	Buy 4 bottles, price each	14.50	10.88		
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		
^^01025	(L)-ARGININE FREE-FORM POWDER - 100 grams	15.98	11.99		
	Buy 4 bottles, price each	14.31	10.73		
^^01617	ARTHRONAX™ w/THEAFLAVINS & APRESFLEX™ - 120 veg. caps	44.00	33.00		
#	Buy 4 bottles, price each	40.00	30.00		
01618	ARTHRONAX™ 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		
00080	ASCORBIC ACID POWDER - 454 grams	38.00	28.50		
	Buy 4 bottles, price each	34.93	26.20		
00082	ASCORBYL PALMITATE - 500 mg, 100 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		

SUB-TOTAL OF COLUMN 1

No.		Retail Each	Member Each	Qty	Total
01066	ASPIRIN - 81 mg, 300 enteric coated tablets	\$6.00	\$4.50		
	Buy 4 bottles, price each	5.33	4.00		
00708	ASTAXANTHIN - 2 mg, 30 softgels	10.25	7.69		
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		
01406	BERRY COMPLETE w/RZD™ 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	10.98	8.24		
	Buy 4 bottles, price each	9.83	7.37		
00653	BETTERWOMAN® -40 caps	40.00	30.00		
	Buy 4 bottles, price each	38.00	28.50		
01622	BIFIDO GI BALANCE - 60 caps	20.00	15.00		
	Buy 4 bottles, price each	18.00	13.50		
01073	BILBERRY EXTRACT - 100 mg, 100 veg. caps	28.00	21.00		
	Buy 4 bottles, price each	25.00	18.75		
01512	BIOACTIVE MILK PEPTIDES - 30 caps	18.00	13.50		
	Buy 4 bottles, price each	16.00	12.00		
*01006	BIOSIL™ - 5 mg, 30 veg. caps	18.95	15.16		
*01007	BIOSIL™ - 1 fl oz	29.99	23.99		
00102	BIOTIN - 600 mcg, 100 caps	7.50	5.63		
	Buy 4 bottles, price each	6.50	4.88		
00145	BIOTIN POWDER - 30 grams	12.50	9.38		
	Buy 4 bottles, price each	11.00	8.25		
01008	BLAST™ - 600 grams of powder	26.95	20.21		
51526	BLENDER - 28 oz bottle	8.99	6.74		
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 veg. caps	56.00	42.00		
	Buy 4 bottles, price each	50.00	37.50		
01611	BONE RESTORE - 150 caps	22.50	16.88		
	Buy 4 bottles, price each	19.50	14.63		
01211	BONE STRENGTH FORMULA w/KOACT® - 120 caps	42.00	31.50		
	Buy 4 bottles, price each	38.00	28.50		
00313	BONE-UP® - 240 caps	24.95	18.71		
	Buy 4 bottles, price each	22.50	16.88		
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		
00621	BORON - 3 mg, 100 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		
00258	BOSWELLA TOPICAL CREAM - 4 oz	15.00	11.25		
	Buy 4 jars, price each	13.00	9.75		

SUB-TOTAL OF COLUMN 2

No.		Retail Each	Member Each	Qty	Total
01253	BRANCHED CHAIN AMINO ACIDS - 90 veg. caps Buy 4 bottles, price each	\$19.50 17.00	\$14.63 12.75		
00999	BREAST HEALTH FORMULA - 60 veg. caps Buy 4 bottles, price each	34.00 30.00	25.50 22.50		
00893	BRITE EYES III - 2 vials, 5 ml each Buy 4 boxes, price each	34.00 32.00	25.50 24.00		
00136	BROMELAIN POWDER - 100 grams Buy 4 bottles, price each	21.00 18.75	15.75 14.06		
01203	BROMELAIN (SPECIALLY-COATED) - 500 mg, 60 enteric coated tablets Buy 4 bottles, price each	21.00 19.00	15.75 14.25		
00884	BUTTERBUR EXT. w/STANDARDIZED ROSMARINIC ACID - 60 softgels Buy 4 bottles, price each	44.00 39.60	33.00 29.70		
C					
01015	CALCIUM CITRATE w/VITAMIN D - 300 caps Buy 4 bottles, price each	\$24.00 21.25	\$18.00 15.94		
00535	CALCIUM D-GLUCARATE - 200 mg, 60 caps Buy 4 bottles, price each	18.00 15.00	13.50 11.25		
01693	CALORIE CONTROL WEIGHT MANAGEMENT FORMULA w/COFFEEGENIC™ GREEN COFFEE EXTRACT BLUEBERRY FLAVOR - 414 grams powder Buy 4 jars, price each Buy 8 jars, price each	60.00 54.00 50.00	45.00 40.50 37.50		
01694	CALORIE CONTROL WEIGHT MANAGEMENT FORMULA w/COFFEEGENIC™ GREEN COFFEE EXTRACT BLUEBERRY FLAVOR - 60 individual packs Buy 4 boxes, price each Buy 8 boxes, price each	64.00 60.00 56.00	48.00 45.00 42.00		
00118	CAPSULE FILLER MACHINE FOR "00" CAPSULES Buy 4 machines, price each	18.95 18.25	14.21 13.69		
00613	CAPSULE FILLER MACHINE FOR "0" CAPSULES Buy 4 machines, price each	18.95 18.25	14.21 13.69		
00916	CARNITINE w/GLYCOCARN® (OPTIMIZED) - 60 veg. caps Buy 4 bottles, price each	36.00 32.00	27.00 24.00		
01041	L-CARNITINE - 500 mg, 30 caps Buy 4 bottles, price each	15.00 13.20	11.25 9.90		
01258	CARNOSOOTHE w/PICROPROTECT™ - 60 veg. caps Buy 4 bottles, price each	29.95 27.00	22.46 20.25		
01287	CARNOSINE (SUPER) - 500 mg, 90 caps Buy 4 bottles, price each	66.00 60.00	49.50 45.00		
01003	CAT MIX - 100 grams powder Buy 4 bottles, price each	15.00 12.00	11.25 9.00		
00390	CDP CHOLINE CAPS - 250 mg, 60 caps Buy 4 bottles, price each	36.00 34.00	27.00 25.50		
00998	CELL SENSOR-EMF DETECTION METER	39.95	29.95		
01370	CHILDREN'S FORMULA LIFE EXTENSION MIX™ - 100 chewable tablets Buy 4 bottles, price each	18.00 16.00	13.50 12.00		
00550	CHLORELLA - 500 mg, 200 tablets Buy 4 bottles, price each	23.50 21.00	17.63 15.75		
01571	CHLOROPHYLLIN w/ZINC - 100 mg, 100 veg. caps Buy 4 bottles, price each	24.00 20.00	18.00 15.00		
*01359	CHO-LESS™ - 90 capsules	32.50	24.38		
00541	CHOLINE CHLORIDE - 16 oz liquid Buy 4 bottles, price each	14.95 14.00	11.21 10.50		
00364	CHONDROITIN SULFATE CONCENTRATE - 400 mg, 60 tablets Buy 4 bottles, price each	19.95 18.00	14.96 13.50		
01477	CHROMIUM ULTRA - 100 veg. caps Buy 4 bottles, price each	24.00 21.00	18.00 15.75		

SUB-TOTAL OF COLUMN 3

No.		Retail Each	Member Each	Qty	Total
01504	CHROMIUM W/CROMINEX® 3+ (OPTIMIZED) - 500 mcg, 60 veg. caps Buy 4 bottles, price each	\$9.00 8.00	\$6.75 6.00		
00551	CILANTRO HERBAL EXTRACT - 1 oz Buy 4 bottles, price each	12.00 11.00	9.00 8.25		
01503	CINSULIN® W/INSEA2™ AND CROMINEX® 3+ - 90 veg. caps Buy 4 bottles, price each	38.00 34.00	28.50 25.50		
00069	CITRUS BIOFLAVONOID - 100 caps Buy 4 bottles, price each	16.79 15.56	12.59 11.67		
00818	CLA BLEND W/SESAME LIGNANS (SUPER) - 1000 mg, 120 softgels Buy 4 bottles, price each Buy 10 bottles, price each	36.00 33.00 26.33	27.00 24.75 19.75		
00819	CLA BLEND w/GUARANA & SESAME (SUPER) -1000 mg, 120 softgels Buy 4 bottles, price each	42.00 38.33	31.50 28.75		
01078	CLEANSE SMART - 60 caps	31.99	23.99		
00050	COD LIVER OIL (EMULSIFIED) - 12 fl oz (355 ml) Buy 4 bottles, price each	14.58 12.27	10.94 9.20		
00293	COD LIVER OIL (EMULSIFIED) - 100 softgels (Emulsified) Buy 4 bottles, price each	10.97 10.34	8.23 7.76		
00922	COGNITEX® w/PREGNENOLONE & NEUROPROTECTION COMPLEX - 90 softgels Buy 4 bottles, price each Buy 12 bottles, price each	74.00 66.60 64.00	55.50 49.95 48.00		
00921	COGNITEX® w/o PREGNENOLONE w/NEUROPROTECTION COMPLEX - 90 softgels Buy 4 bottles, price each Buy 12 bottles, price each	72.00 64.00 62.00	54.00 48.00 46.50		
01421	COGNITEX® BASICS - 60 softgels Buy 4 bottles, price each Buy 12 bottles, price each	38.00 35.00 32.00	28.50 26.25 24.00		
00110	COMPLETE B-COMPLEX - 180 caps Buy 4 bottles, price each	21.50 18.00	16.13 13.50		
01595	COMPREHENSIVE NUTRIENT PACK - 30-day supply Buy 4 bottles, price each	189.00 171.00	141.75 128.25		
00119	COPPER CAPSULES - 2 mg, 100 caps Buy 4 bottles, price each	9.91 8.96	7.43 6.72		
00949	COQ10™ w/ #LIMONENE (SUPER ABSORBABLE) - 50 mg, 60 softgels Buy 4 bottles, price each Buy 10 bottles, price each	25.00 22.00 20.00	18.75 16.50 15.00		
00950	COQ10™ w/ #LIMONENE (SUPER ABSORBABLE) - 100 mg, 100 softgels Buy 4 bottles, price each Buy 10 bottles, price each	66.00 60.00 56.00	49.50 45.00 42.00		
01226	COQ10 (SUPER UBIQUINOL) - 100 mg, 60 softgels Buy 4 bottles, price each Buy 10 bottles, price each	56.00 52.00 48.00	42.00 39.00 36.00		
01426	COQ10 w/ENH MITOCHONDRIAL SUPPORT™ (SUPER UBIQUINOL) -100 mg, 60 softgels Buy 4 bottles, price each Buy 10 bottles, price each	62.00 56.00 52.00	46.50 42.00 39.00		
01425	COQ10 w/ENH MITOCHONDRIAL SUPPORT™ (SUPER UBIQUINOL) -50 mg, 100 softgels Buy 4 bottles, price each Buy 10 bottles, price each	58.00 53.00 50.00	43.50 39.75 37.50		
01427	COQ10 w/ENH MITOCHONDRIAL SUPPORT™ (SUPER UBIQUINOL) -50 mg, 30 softgels Buy 4 bottles, price each	20.00 18.00	15.00 13.50		
01431	COQ10 w/ENH MITOCHONDRIAL SUPPORT™ (SUPER UBIQUINOL) -200 mg, 30 softgels Buy 4 bottles, price each Buy 10 bottles, price each	62.00 56.00 52.00	46.50 42.00 39.00		

SUB-TOTAL OF COLUMN 4

Buyers Club Order Form

To order call: 1.954.766.8433 or 1.800.544.4440

No.		Retail Each	Member Each	Qty	Total
C CONTINUED					
*01053	CORIOLUS SUPER STRENGTH - 600 mg, 150 veg. caps	\$99.95	\$74.96		
80140	COSMESIS ADVANCED UNDER EYE SERUM w/STEM CELLS - 33 oz Buy 2 bottles, price each	49.00 42.00	36.75 31.50		
80139	COSMESIS AMBER SELF MICRODERMABRASION - 2 oz Buy 2 jars, price each	49.00 42.00	36.75 31.50		
80118	COSMESIS ANTI-AGING MASK - 2 oz Buy 2 bottles, price each	72.00 63.36	54.00 47.52		
80134	COSMESIS ANTI-GLYCOLIC SERUM - 1 oz W/BLEUBERRY & POMEGRANATE EXTRACTS Buy 2 bottles, price each	33.00 31.35	24.75 23.51		
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 & BLEMISH LOTION - 1 oz Buy 2 bottles, price each	74.50 65.56	55.88 49.17		
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		
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 ANTI-OXIDANT 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 bottles, price each	74.50 65.56	55.88 49.17		
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		
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		
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		
80102	COSMESIS VITAMIN K HEALING CREAM - 1 oz Buy 2 bottles, price each	79.50 69.96	59.63 52.47		
00862	CRANMAX - 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		
00609	CREATINE CAPSULES - 120 caps Buy 4 bottles, price each	10.95 9.25	8.21 6.94		
00610	CREATINE POWDER - 500 grams Buy 4 bottles, price each	29.00 26.63	21.75 19.97		
01096	CREATINE WHEY GLUTAMINE POWDER - 1000 grams (vanilla) Buy 4 bottles, price each	50.00 48.00	37.50 36.00		
~01519	CRUCIFEROUS VEGETABLE SOUP - 32 oz. pouch Buy 6 pouches, price each	11.95 11.25	8.96 8.44		
~01520	(ASIAN) CRUCIFEROUS VEGETABLE SOUP - 32 oz. pouch Buy 6 pouches, price each	11.95 11.25	8.96 8.44		
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		
D					
01376	DAILY GINGER® - 90 veg. caps	\$21.95	\$16.46		
01313	DERMAWHEY - 400 mg, 60 caps Buy 4 bottles, price each	65.00 59.00	48.75 44.25		
00995	DHA 240 - 240 mg, 60 softgels Buy 4 bottles, price each	19.00 17.00	14.25 12.75		
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		
00607	DHEA - 25 mg, 100 tablets (dissolve in mouth) Buy 4 bottles, price each	14.00 11.75	10.50 8.81		

SUB-TOTAL OF COLUMN 6

To order online visit: www.LifeExtension.com

Buyers Club Order Form

No.		Retail Each	Member Each	Qty	Total
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	15.00 12.50	11.25 9.38		
00454	DHEA - 15 mg, 100 caps Buy 4 bottles, price each	12.00 10.00	9.00 7.50		
00882	DHEA - 50 mg, 60 caps Buy 4 bottles, price each	16.00 14.00	12.00 10.50		
00883	DHEA - 100 mg, 60 caps Buy 4 bottles, price each	22.50 19.00	16.88 14.25		
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		
00034	D,L-PHENYLALANINE CAPSULES - 500 mg, 100 caps Buy 4 bottles, price each	18.75 16.00	14.06 12.00		
00257	DMAE BITARTRATE - 150 mg, 200 caps Buy 4 bottles, price each	14.00 10.50	10.50 7.88		
00059	DMG - 125 mg, 60 tablets Buy 4 boxes, price each	22.80 21.00	17.10 15.75		
01547	DNA PROTECTION FORMULA - 60 veg. caps Buy 4 bottles, price each	30.00 28.00	22.50 21.00		
00544	DOG MIX - 100 grams powder Buy 4 bottles, 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		
00240	DUAL-C - 90 caps Buy 4 bottles, price each	12.00 10.50	9.00 7.88		
E					
00388	ECHINACEA EXTRACT - 250 mg, 60 caps Buy 4 bottles, price each	\$14.35 12.50	\$10.76 9.38		
01395	EDTA - 500 mg, 60 caps	9.98	7.49		
01321	ELASTIN & COLLAGEN BODY FIRING LOTION - 8 fl. oz.	10.00	7.50		
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	52.00 46.00	39.00 34.50		
00625	EPA/DHA (MEGA) - 120 softgels Buy 4 bottles, price each	19.95 18.00	14.96 13.50		
*01042	EUROPEAN LEG SOLUTION DIOSMIN 95 - 600 mg, 30 veg. tabs Buy 4 bottles, price each	20.00 18.00	15.00 13.50		
01514	EYE PRESSURE SUPPORT w/MIRTOGENOL® - 30 veg. caps Buy 4 bottles, price each	38.00 34.00	28.50 25.50		
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		
20053	FEM DOPHILUS® - 30 caps	25.95	19.46		
20055	FEM DOPHILUS® - 60 caps	39.95	29.96		
01064	FEMMESENCE MACAPAUZE® - 120 veg. caps	34.99	26.24		
*01311	FERNBLOCK® w/SENDARA™ (ENHANCED) - 30 veg. caps Buy 4 bottles, price each	39.00 35.00	29.25 26.25		

SUB-TOTAL OF COLUMN 7

No.		Retail Each	Member Each	Qty	Total
00229	FIBER FOOD CAPS - 200 caps Buy 4 bottles, price each Buy 10 bottles, price each	\$15.00 12.50 11.90	\$11.25 9.38 8.93		
00718	FIBRINOGEN RESIST™ - 30 veg. caps Buy 4 bottles, price each	49.00 44.00	36.75 33.00		
00873	FLAXSEED POWDER (HI-LIGNAN® NUTRI-FLAX®) - 16 oz powder	9.95	7.46		
01384	FLORADIX® IRON & HERBS - 17 fl. oz.	43.99	35.19		
01200	FLORASTOR® - 250 mg, 50 caps	55.15	41.36		
01382	FLORAVITAL® IRON & HERBS - 17 fl. oz.	43.99	35.19		
01212	FLUSH + BE FIT - 2- week cleanse for women	29.99	22.49		
01439	FOLATE (OPTIMIZED) (L-METHYL-FOLATE) 1000 mcg - 100 veg. caps Buy 4 bottles, price each	28.00 25.00	21.00 18.75		
00347	FOLIC ACID + B12 CAPSULES - 200 caps Buy 4 bottles, price each	10.50 9.50	7.88 7.13		
00300	FORSKOLIN - 10 mg, 60 caps Buy 4 bottles, price each	15.00 12.50	11.25 9.38		
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					
00127	GABA POWDER - 100 grams Buy 4 bottles, price each	\$23.75 22.50	\$17.81 16.88		
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		
01378	GARLIC FORCE™ - 30 softgels	34.95	26.21		
00117	GELATIN CAPSULES - 1000 empty caps size "00" Buy 4 bags, price each	19.00 18.00	14.25 13.50		
01301	GH PITUITARY SUPPORT DAY FORMULA - 120 vegetarian tabs 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	29.95	22.46		
00778	GINKGO BILOBA CERTIFIED EXTRACT™ - 120 mg, 365 caps Buy 2 bottles, price each	46.00 43.50	34.50 32.63		
00504	GINKGO EXTRACT (SUPER) - 120 mg, 100 caps Buy 4 bottles, price each	29.00 26.50	21.75 19.88		
01032	(PANAX RED) GINSENG - 60 veg. caps	29.99	22.49		
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	19.00 16.88	14.25 12.66		
00522	GLUCOSAMINE/CHONDROITIN CAPSULES - 100 caps Buy 4 bottles, price each	38.00 32.00	28.50 24.00		
00512	GLUCOFIT™ - 100 softgels Buy 4 bottles, price each	28.00 25.00	21.00 18.75		
00113	GLUTATHIONE, CYSTEINE & C - 750 mg, 100 caps Buy 4 bottles, price each	18.00 16.00	13.50 12.00		
00314	L-GLUTATHIONE (MEGA) - 250 mg, 60 caps Buy 4 bottles, price each	39.64 35.68	29.73 26.76		

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					
00795	GLYCINE - 1000 mg, 100 caps Buy 4 bottles, price each	\$12.00 10.80	\$9.00 8.10		
00128	GLYCINE POWDER - 300 grams Buy 4 bottles, price each	18.00 16.00	13.50 12.00		
01091	GRAPE EXTRACT w/RESVERATROL (WHOLE) - 60 veg. caps Buy 4 bottles, price each	36.00 34.00	27.00 25.50		
01411	GRAPE SEED EXTRACT w/RESVERATROL & PTEROSTILBENE - 100 mg, 60 veg. caps Buy 4 bottles, price each	36.00 34.00	27.00 25.50		
01604	GREEN COFFEE EXTRACT COFFEENIC™ - 200 mg, 90 veg. caps Buy 4 bottles, price each	25.00 22.00	18.75 16.50		
01620	GREEN COFFEE EXTRACT COFFEENIC™ - 400 mg, 90 veg. caps Buy 4 bottles, price each	38.00 34.00	28.50 25.50		
01607	GREEN COFFEE EXTRACT COFFEENIC™ - 90 veg. caps w/GLUCOSE CONTROL COMPLEX Buy 4 bottles, price each	58.00 52.00	43.50 39.00		
00953	GREEN TEA EXTRACT (MEGA) - lightly caffeinated - 100 veg. caps Buy 4 bottles, price each	28.00 26.50	21.00 19.88		
00954	GREEN TEA EXTRACT (MEGA) - decaffeinated - 100 veg. caps Buy 4 bottles, price each	28.00 26.50	21.00 19.88		
01606	GREEN TEA W/COFFEENIC™ GREEN COFFEE EXTRACT (MEGA) 120 veg. caps, low caffeine Buy 4 bottles, price each	32.00 28.00	24.00 21.00		
01605	GREEN TEA W/COFFEENIC™ GREEN COFFEE EXTRACT (MEGA) 120 veg. caps Buy 4 bottles, price each	32.00 28.00	24.00 21.00		
H					
01074	5 HTP - 100 mg, 60 caps	\$27.95	\$20.96		
00010	HAIR CONDITIONER - 16 oz Buy 4 bottles, price each	6.00 4.50	4.50 3.38		
00230	HCA - 90 caps Buy 4 bottles, price each	18.00 15.50	13.50 11.63		
01393	HEPATOPRO - 900 mg, 60 softgels Buy 4 bottles, price each	50.00 46.00	37.50 34.50		
01433	HOLY BASIL - 60 softgel caps	34.95	26.21		
01434	HOLY BASIL - 120 softgel caps	54.95	41.21		
01435	HOMOCYSTEINE RESIST - 100 caps Buy 4 bottles, price each	24.00 21.60	18.00 16.20		
01527	HUPERZINE A - 200 mcg, 60 veg caps Buy 4 bottles, price each	34.00 30.00	25.50 22.50		
00661	HYDRODERM® - 1 oz Buy 2 bottles, price each	79.95 65.33	59.96 49.00		
I					
^ 01060	i26 HYPERIMMUNE EGG - 140 grams powder	\$49.99	\$42.00		
^ 01319	i26 HYPERIMMUNE EGG - 135 capsules	31.99	25.59		
^ 01318	i26 HYPERIMMUNE EGG CHEWABLES - (vanilla) 45 tablets	31.99	25.59		
01065	IDEAL BOWEL SUPPORT 299V - 30 veg. caps	21.95	16.46		
00955	IMMUNE PROTECT W/PARACTIN® - 30 veg. caps Buy 4 bottles, price each	29.50 26.55	22.13 19.91		
01049	INNERPOWER™ - 555 grams powder	42.00	31.50		
00155	INOSINE - 500 mg, 60 caps Buy 4 bottles, price each	22.95 21.00	17.21 15.75		
00410	INOSITOL CAPSULES - 1000 mg, 360 caps Buy 4 bottles, price each	48.00 43.75	36.00 32.81		
00108	INOSITOL POWDER - 100 grams Buy 4 bottles, price each	18.00 16.88	13.50 12.66		

SUB-TOTAL OF COLUMN 9

No.		Retail Each	Member Each	Qty	Total
01021	INTACT DIGEST™ - 8 fl oz Buy 4 bottles, price each	\$35.00 33.00	\$26.25 24.75		
01292	INTEGRA-LEAN® IRVINGIA - 150 mg, 60 veg. caps Buy 4 bottles, price each	28.00 24.00	21.00 18.00		
01002	IODORAL® - 180 tabs	50.00	37.50		
00563	IRON PROTEIN PLUS - 300 mg, 100 caps Buy 4 bottles, price each	24.00 22.00	18.00 16.50		
01492	IRVINGIA W/PHASE 3™ - 120 veg. caps CALORIE CONTROL COMPLEX (OPTIMIZED) Buy 4 bottles, price each	56.00 48.00	42.00 36.00		
J, K					
00056	JARRO-DOPHILUS EPS™ - 60 veg. caps	\$21.95	\$16.46		
01387	JARRO-DOPHILUS ORAL PROBIOTIC GUM - Pom-Berry flavor, 8 pieces	4.95	3.71		
01388	JARRO-DOPHILUS ORAL PROBIOTIC LOZENGE - Pom-Berry flavor, 8 pieces	4.95	3.71		
01224	K w/ADVANCED K2 COMPLEX (SUPER) - 90 softgels Buy 4 bottles, price each	26.00 23.00	19.50 17.25		
## 01600	KRILL HEALTHY JOINT FORMULA - 30 softgels Buy 4 bottles, price each	32.00 29.00	24.00 21.75		
01050	(NKO) KRILL OIL - 60 softgels	33.95	25.46		
00316	KYOLIC® GARLIC FORMULA 102 - 200 caps Buy 4 bottles, price each	23.95 20.50	17.96 15.38		
00214	KYOLIC® GARLIC FORMULA 105 - 200 caps Buy 4 bottles, price each	22.95 18.25	17.21 13.69		
00789	KYOLIC® RESERVE - 600 mg, 120 caps Buy 4 bottles, price each	24.75 21.45	18.56 16.09		
L					
00513	LACTOFERRIN (APOLACTOFERRIN) CAPS - 60 caps Buy 4 bottles, price each	\$40.00 36.00	\$30.00 27.00		
00017	LAVILIN UNDERARM DEODORANT - 12.5 grams cream Buy 4 jars, price each	16.99 15.75	12.74 11.81		
00020	LECITHIN - 16 oz. granules Buy 4 jars, price each	15.00 12.50	11.25 9.38		
01655	LIFE EXTENSION MIX™ - 315 tablets Buy 4 bottles, price each Buy 10 bottles, price each	98.00 86.00 69.50	73.50 64.50 52.13		
01657	LIFE EXTENSION MIX™ W/EXTRA NIACIN - 315 tablets Buy 4 bottles, price each Buy 10 bottles, price each	98.00 86.00 69.50	73.50 64.50 52.13		
01654	LIFE EXTENSION MIX™ - 490 caps Buy 4 bottles, price each Buy 10 bottles, price each	110.00 98.00 85.00	82.50 73.50 63.75		
01656	LIFE EXTENSION MIX™ POWDER - 14.81 oz Buy 4 bottles, price each Buy 10 bottles, price each	98.00 86.00 72.00	73.50 64.50 54.00		
01665	LIFE EXTENSION MIX™ - 315 tablets w/o copper Buy 4 bottles, price each Buy 10 bottles, price each	98.00 86.00 69.50	73.50 64.50 52.13		
01667	LIFE EXTENSION MIX™ W/EXTRA NIACIN 315 tablets w/o copper Buy 4 bottles, price each Buy 10 bottles, price each	98.00 86.00 69.50	73.50 64.50 52.13		
01664	LIFE EXTENSION MIX™ - 490 caps w/o copper Buy 4 bottles, price each Buy 10 bottles, price each	110.00 98.00 85.00	82.50 73.50 63.75		

SUB-TOTAL OF COLUMN 10

No.		Retail Each	Member Each	Qty	Total
01666	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		
00263	LIFE FLORA™ - 300 mg, 120 caps	20.50	15.38		
	Buy 4 bottles, price each	18.75	14.06		
01377	LIFESHIELD® BREATHE™ - 60 veg. caps	34.95	26.21		
01349	LIFESHIELD® CORDYCEPS - 60 veg. caps	34.95	26.21		
01314	LIFESHIELD® IMMUNITY™ - 60 veg. caps	39.95	29.96		
01339	LIFESHIELD® REISHI™ - 60 veg. caps	34.95	26.21		
01608	LIVER EFFICIENCY FORMULA - 30 veg. caps	18.00	13.50		
	Buy 4 bottles, price each	16.00	12.00		
01227	LIVER FORCE - 30 veg. caps	34.95	26.21		
01639	5-LOX INHIBITOR W/APRESFLEX™ - 100 mg, 60 veg. caps	22.00	16.50		
	Buy 4 bottles, price each	20.00	15.00		
01013	L-LYSINE - 620 mg, 100 caps	9.00	6.75		
	Buy 4 bottles, price each	8.00	6.00		
00129	L-LYSINE POWDER - 300 grams	16.00	12.00		
	Buy 4 bottles, price each	13.75	10.31		
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		
M					
01369	MAGNESIUM CAPS - 500 mg, 100 veg. caps	\$10.00	\$7.50		
	Buy 4 bottles, price each	9.00	6.75		
00502	MAGNESIUM CITRATE - 160 mg, 100 caps	9.00	6.75		
	Buy 4 bottles, price each	7.50	5.63		
00704	MAITAKE™ SX-FRACTION - 90 veg. tablets	49.95	37.46		
00547	MELATONIN - 300 mcg, 100 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		
01086	MELATONIN - 3 mg, 60 time-release veg. caps	10.50	7.88		
	Buy 4 bottles, price each	9.38	7.04		
00331	MELATONIN - 10 mg, 60 caps	28.00	21.00		
	Buy 4 bottles, price each	24.00	18.00		
00332	MELATONIN - 3 mg, 60 lozenges	8.00	6.00		
	Buy 4 bottles, price each	6.88	5.16		
01087	MELATONIN TIME RELEASE - 300 mcg, 100 veg. caps	6.25	4.69		
	Buy 4 bottles, price each	5.63	4.22		
01088	MELATONIN TIME RELEASE - 750 mcg, 60 veg. caps	5.75	4.31		
	Buy 4 bottles, price each	5.00	3.75		
01009	MEMORY UPGRADE™ - 600 grams powder	26.95	20.21		
01536	METHYLCOBALAMIN - 1 mg, 60 lozenges (vanilla)	9.95	7.46		
	Buy 4 bottles, price each	8.00	6.00		

SUB-TOTAL OF COLUMN 11

No.		Retail Each	Member Each	Qty	Total
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		
01522	MILK THISTLE (CERTIFIED EUROPEAN) - 750 mg, 60 veg. caps	34.00	25.50		
	Buy 4 bottles, price each	30.00	22.50		
01517	MILK THISTLE (CERTIFIED EUROPEAN) - 120 veg. caps	52.00	39.00		
	Buy 4 bottles, price each	48.00	36.00		
00623	MINERAL FORMULA FOR MEN - 100 caps	15.00	11.25		
	Buy 4 bottles, price each	12.50	9.38		
	Buy 12 bottles, price each	10.83	8.13		
00624	MINERAL FORMULA FOR WOMEN - 100 caps	15.00	11.25		
	Buy 4 bottles, price each	12.50	9.38		
	Buy 12 bottles, price each	10.83	8.13		
01315	MIRAFORTE w/STANDARDIZED LIGNANS (SUPER) - 120 caps	62.00	46.50		
	Buy 4 bottles, price each	56.00	42.00		
01569	MITOCHONDRIAL BASICS w/BIOPQQ™ - 30 caps	52.00	39.00		
	Buy 4 bottles, price each	46.00	34.50		
01568	MITOCHONDRIAL ENERGY OPTIMIZER w/BIOPQQ™ - 120 caps	94.00	70.50		
	Buy 4 bottles, price each	84.00	63.00		
00803	MIST ORAL III w/COQ10 - 2 fl oz	28.00	21.00		
	Buy 4 bottles, price each	25.33	19.00		
00065	MK-7 - 90 mcg, 60 softgels	28.00	21.00		
	Buy 4 bottles, price each	25.00	18.75		
01279	MOUTHWASH w/POMEGRANATE - 16 oz	18.50	13.88		
	Buy 4 bottles, price each	17.00	12.75		
00451	MSM (METHYLSULFONYLMETHANE) - 1000 mg, 100 caps	14.00	10.50		
	Buy 4 bottles, price each	11.95	8.96		
N					
00215	N-ACETYL-L-CYSTEINE - 600 mg, 60 caps	\$14.00	\$10.50		
	Buy 4 bottles, price each	13.50	10.13		
00168	NAPCA w/ALOE VERA - 8 fl oz	10.50	7.88		
	Buy 4 bottles, price each	9.61	7.21		
00066	NATTOKINASE - 60 softgels	24.98	18.74		
00891	NATURAL APPETITE CONTROL - 90 softgels	28.00	21.00		
	Buy 4 bottles, price each	25.20	18.90		
00984	NATURAL BP MANAGEMENT - 60 tablets	42.00	31.50		
	Buy 4 bottles, price each	37.80	28.35		
00913	NATURAL ESOPHAGUARD - 10 softgels	19.95	14.96		
	Buy 2 boxes, price each	19.00	14.25		
00712	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		
00698	NATURAL RELIEF 1222™ - 2 oz	28.00	21.00		
	Buy 4 tubes, price each	25.00	18.75		
01084	NATURAL SLEEP® - 3 mg, 60 veg. caps	12.99	9.74		
	Buy 4 bottles, price each	10.00	7.50		

SUB-TOTAL OF COLUMN 12

Buyers Club Order Form

To order call: 1.954.766.8433 or 1.800.544.4440

No.		Retail Each	Member Each	Qty	Total
N CONTINUED					
01507	NATURAL SLEEP® (ENHANCED) W/ MELATONIN - 30 caps Buy 4 bottles, price each	\$22.00 20.00	\$16.50 15.00		
01511	NATURAL SLEEP® (ENHANCED) W/O MELATONIN - 30 caps Buy 4 bottles, price each	20.00 18.00	15.00 13.50		
01085	NATURAL SLEEP MELATONIN® - 5 mg, 60 veg. caps Buy 4 bottles, price each	18.00 16.00	13.50 12.00		
00987	NATURAL STRESS RELIEF - 30 veg. caps Buy 4 bottles, price each	28.00 24.00	21.00 18.00		
01603	NEURO-MAG™ MAGNESIUM L-THREONATE - 90 veg. caps Buy 4 bottles, price each	40.00 36.00	30.00 27.00		
01602	NEURO-MAG™ THREONATE W/CALCIUM & VITAMIN D 205 grams - Lemon flavor Buy 4 bottles, price each	40.00 36.00	30.00 27.00		
01076	NEW FACE SOLUTION - 1.7 oz bottle Buy 4 bottles, price each	54.00 49.00	40.50 36.75		
00373	NO-FLUSH NIACIN - 800 mg, 100 caps Buy 4 bottles, price each	19.00 17.00	14.25 12.75		
01035	NUTRIM - 170 grams powder	25.95	19.46		
O					
01623	OLIVE LEAF VASCULAR SUPPORT - 500 mg, 60 veg. caps Buy 4 bottles, price each	\$22.00 20.00	\$16.50 15.00		
01518	OMEGA-3 CHEWABLES - 60 softchews, 120 mg EPA/DHA Buy 4 pouches, price each	24.00 22.00	18.00 16.50		
01483	OMEGA 3 EPA/DHA w/SESAME LIGNANS & OLIVE FRUIT EXTRACT (SUPER) - 60 softgels Buy 4 bottles, price each	18.00 16.00	13.50 12.00		
01482	OMEGA 3 EPA/DHA w/SESAME LIGNANS & OLIVE FRUIT EXTRACT (SUPER) - 120 softgels Buy 4 bottles, price each Buy 10 bottles, price each	32.00 28.00 24.90	24.00 21.00 18.68		
01484	OMEGA 3 EPA/DHA W/SESAME LIGNANS & OLIVE FRUIT EXTRACT (SUPER) - 120 enteric coated softgels Buy 4 bottles, price each Buy 10 bottles, price each	34.00 31.00 28.00	25.50 23.25 21.00		
01619	OMEGA 3 EPA/DHA W/SESAME LIGNANS & OLIVE FRUIT EXTRACT (SUPER) (SMALL SOFTGEL) Buy 4 bottles, price each Buy 10 bottles, price each	32.00 28.00 24.90	24.00 21.00 18.68		
01601	ONE-PER-DAY - 60 veg. tablets Buy 4 bottles, price each	22.00 20.00	16.50 15.00		
01328	ONLY TRACE MINERALS - 90 caps Buy 4 bottles, price each	15.00 12.50	11.25 9.38		
00915	OPTIZING® - 30 mg, 90 veg. caps Buy 4 bottles, price each	5.95 5.00	4.46 3.75		
01070	ORGANIC TOTAL BODY CLEANSE™ - 14-day supply	34.99	26.24		
P					
00107	PABA CAPS - 500 mg, 100 caps Buy 4 bottles, price each	\$15.42 13.59	\$11.57 10.19		
00073	PANCREATIN - 500 mg, 50 caps Buy 4 bottles, price each	13.22 12.12	9.92 9.09		
01323	PEAK ATP® WITH GLYCOARN® - 60 veg. caps Buy 4 bottles, price each	59.00 56.00	44.25 42.00		
00342	PECTA SOL-C® MODIFIED CITRUS PECTIN - 454 grams powder Buy 4 jars, price each	99.95 95.70	74.96 71.78		

SUB-TOTAL OF COLUMN 13

No.		Retail Each	Member Each	Qty	Total
01080	PECTA SOL-C® MODIFIED CITRUS PECTIN - 270 veg. caps	\$69.95	\$52.46		
00673	PGX™ SOLUBLE FIBER BLEND (WELLBETX®) -180 caps	34.95	26.21		
00865	PHARMAGABA™ - 60 chewable tablets Buy 4 bottles, price each	29.95 27.00	22.46 20.25		
00368	PHOSPHATIDYL SERINE CAPS - 100 mg, 100 caps Buy 4 bottles, price each	54.00 48.00	40.50 36.00		
00561	POLICOSANOL - 10 mg, 60 tablets Buy 6 bottles, price each	24.00 18.00	18.00 13.50		
01423	POMEGRANATE™ (FULL-SPECTRUM) - 30 softgels Buy 4 bottles, price each	24.00 21.00	18.00 15.75		
00956	POMEGRANATE EXTRACT - 30 veg. caps Buy 4 bottles, price each	19.50 17.55	14.63 13.16		
00957	POMEGRANATE JUICE CONCENTRATE - 16 oz. liquid Buy 4 bottles, price each	25.95 24.00	19.46 18.00		
00577	POTASSIUM IODIDE - 1 box, 14 tablets Buy 4 boxes, price each	6.95 5.25	5.21 3.94		
01500	PQQ CAPS W/BIOPEP™ - 10 mg, 30 veg. caps Buy 4 bottles, price each	24.00 22.00	18.00 16.50		
00302	PREGNENOLONE - 50 mg, 100 caps Buy 4 bottles, price each	24.00 19.00	18.00 14.25		
00700	PREGNENOLONE - 100 mg, 100 caps Buy 4 bottles, price each	26.00 22.50	19.50 16.88		
01373	PRELOX® NATURAL SEX FOR MEN® - 60 tablets Buy 4 bottles, price each	52.00 48.00	39.00 36.00		
00571	PRIMAL DEFENSE™ - 90 caplets Buy 4 bottles, price each	49.95 48.50	37.46 36.38		
01019	PRIMAL DEFENSE™ - 180 caplets	78.95	59.21		
01329	PROBIOTIC ALL-FLORA® - 60 veg. caps	25.95	19.46		
01326	PROBIOTIC ANTI-AGING™ - 90 veg. caps	30.95	23.21		
01324	PROBIOTIC CLEANSE™ - 90 veg. caps	29.95	22.46		
01322	PROBIOTIC COLON™ - 90 veg. caps	30.95	23.21		
00525	PROBOOST THYMIC PROTEIN A™ - 4 mcg, 30 packets Buy 4 boxes, price each	72.00 70.00	54.00 52.50		
00869	PRO FEM CREAM - 2 fl oz (Progesterone Cream) Buy 4 bottles, price each	32.00 29.00	24.00 21.75		
01020	PROGREENS® - 15 stick pack	22.50	16.88		
01072	PRO M INTERNAL DEODORIZER - 500 mg, 100 veg. caps Buy 4 bottles, price each	28.00 25.00	21.00 18.75		
01695	PROSTATE FORMULA W/APRESFLEX™ STAND. LIGNANS (ULTRA NAT) 60 softgels Buy 4 bottles, price each Buy 12 bottles, price each	38.00 35.00 32.00	28.50 26.25 24.00		
01092	PROTEIN - VANILLA - (Enhanced Life Extension) -1000 grams powder Buy 4 bottles, price each	50.00 48.00	37.50 36.00		
01093	PROTEIN - CHOCOLATE - (Enhanced Life Extension) -1000 grams powder Buy 4 bottles, price each	50.00 48.00	37.50 36.00		
01094	PROTEIN - NATURAL - (Enhanced Life Extension) -1000 grams powder Buy 4 bottles, price each	50.00 48.00	37.50 36.00		
01095	PROTEIN - BERRY - (Enhanced Life Extension) -1000 grams powder Buy 4 bottles, price each	50.00 48.00	37.50 36.00		
00290	PROTEIN - VANILLA - (Designer Whey) 2 lbs powder Buy 4 bottles, price each	42.49 38.50	31.87 28.88		
00282	PROTEIN - CHOCOLATE - (Designer Whey) 2 lbs powder Buy 4 bottles, price each	42.49 38.50	31.87 28.88		
00283	PROTEIN - NATURAL - (Designer Whey) 2 lbs powder Buy 4 bottles, price each	42.49 38.50	31.87 28.88		
01508	PTEROPURE™ - 50 mg Pterostilbene 60 veg. caps Buy 4 bottles, price each	32.00 30.00	24.00 22.50		

SUB-TOTAL OF COLUMN 14

No.		Retail Each	Member Each	Qty	Total
01075	PURE PLANT PROTEIN - Natural Vanilla 450 grams powder Buy 4 jars, price each	\$36.00 33.00	\$27.00 24.75		
01209	PUMPKIN SEED EXTRACT (WATER-SOLUBLE) - 60 veg. caps Buy 4 bottles, price each	20.00 18.00	15.00 13.50		
01210	PUMPKIN SEED EXT w/SOY ISOFLAVONES (WATER-SOLUBLE) - 60 veg. caps Buy 4 bottles, price each	22.00 20.00	16.50 15.00		
01031	PYCNOGENOL* - 60 veg. caps	89.95	67.46		
01217	PYRIDOXAL 5'-PHOSPHATE - 100 mg, 60 veg. caps Buy 4 bottles, price each	22.00 19.80	16.50 14.85		
Q, R					
01309	QUERCETIN (OPTIMIZED) - 250 mg, 60 veg. caps Buy 4 bottles, price each	\$18.00 17.00	\$13.50 12.75		
01030	RED YEAST RICE (Bluebonnet)- 600 mg, 60 veg. caps	17.50	13.13		
00979	RED YEAST RICE (Nature's Plus)- 600 mg, 60 veg. caps	23.95	17.96		
00060	RED YEAST RICE EXTENDED RELEASE - 30 veg. tablets	21.50	16.13		
00605	REGIMINT - 60 enteric-coated caps Buy 4 bottles, price each	19.95 18.67	14.96 14.00		
01448	REJUVENEX* BODY LOTION - 6 oz Buy 4 tubes, price each Buy 8 tubes, price each	24.00 19.80 17.00	18.00 14.85 12.75		
00918	REJUVENEX* FACTOR - 1.7 oz airless pump Buy 2 bottles, price each Buy 4 bottles, price each Buy 8 bottles, price each	65.00 60.00 55.00 49.91	48.75 45.00 41.25 37.43		
01220	REJUVENEX* (ULTRA) - 2 oz Buy 2 jars, price each Buy 4 jars, price each Buy 8 jars, price each	52.00 48.00 44.00 39.93	39.00 36.00 33.00 29.95		
00676	REJUVENIGHT (ULTRA) - 2 oz Buy 4 jars, price each	39.95 36.00	29.96 27.00		
00706	REJUVENIGHT w/PROGESTERONE (ULTRA) - 2 oz Buy 4 jars, price each	42.00 38.00	31.50 28.50		
01413	RESVERATROL W/PTEROSTILBENE - 20 mg, 60 veg. caps Buy 4 bottles, price each	24.00 22.00	18.00 16.50		
01410	RESVERATROL W/PTEROSTILBENE - 100 mg, 60 veg. caps Buy 4 bottles, price each	36.00 32.00	27.00 24.00		
01430	RESVERATROL w/SYNERGISTIC GRAPE-BERRY ACTIVES (OPTIMIZED) - 250 mg, 60 veg. caps Buy 4 bottles, price each	46.00 41.33	34.50 31.00		
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		
01610	RICH REWARDS DECAFFEINATED ROAST GROUND COFFEE - 12 oz. bag	14.00	10.50		
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		
00917	ROSMARINIC ACID EXTRACT - 60 veg. caps Buy 4 bottles, price each	59.00 53.00	44.25 39.75		

SUB-TOTAL OF COLUMN 15

No.		Retail Each	Member Each	Qty	Total
S					
01067	SACCHAROMYCES BOULARDII+MOS - 90 veg. caps	\$21.95	\$16.46		
01432	SAFFRON w/SATIREAL (OPTIMIZED) - 60 veg. caps Buy 4 bottles, price each	36.00 32.00	27.00 24.00		
**00573	SAMBU* GUARD - 175 ml	17.79	14.23		
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		
01043	SEA-IODINE™ - 1000 mcg, 60 veg. caps Buy 4 bottles, price each	8.00 7.20	6.00 5.40		
00046	SELENIUM - 2 oz dropper bottle Buy 4 bottles, price each	9.95 9.45	7.46 7.09		
00567	SE-METHYL L-SELENOCYSTEINE - 200 mcg, 100 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		
00011	SHAMPOO - 16 fl oz Buy 4 bottles, price each	6.00 4.75	4.50 3.56		
00284	SHARK LIVER OIL (NORWEGIAN) - 1000 mg, 30 softgels Buy 4 bottles, price each	18.00 16.00	13.50 12.00		
00184	SILYMARIN - 100 mg, 50 caps Buy 4 bottles, price each	9.25 8.25	6.94 6.19		
01502	SKIN RESTORING CERAMIDES w/LIPOWHEAT™ - 30 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		
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		
00286	SOY PROTEIN CONCENTRATE - 16 oz of powder Buy 4 jars, price each	12.00 10.63	9.00 7.97		
01099	STABILIMUM* 200 - 30 caps	30.00	22.50		
00432	STEVIA EXTRACT - 100 packets, 1 gram each Buy 4 boxes, price each	9.95 9.00	7.46 6.75		
01396	ST. JOHN'S WORT EXTRACT - 300 mg, 60 veg. caps Buy 4 bottles, price each	10.98 10.00	8.24 7.50		
00327	ST. JOHN'S WORT EXTRACT (PLANETARY) - 600 mg, 60 tablets Buy 4 bottles, price each	16.75 13.85	12.56 10.39		
01476	STRONTIUM - 750 mg, 90 veg. caps Buy 4 bottles, price each	20.00 18.00	15.00 13.50		
00971	SUN PROTECTION SPRAY W/BETA GLUCAN - SPF30 - 6 oz Buy 4 bottles, price each	14.95 13.50	11.21 10.13		
00747	SUNGLASSES (OVERXCAST POLARIZED) - gray color, large Buy 2 pairs, price each	27.00 21.00	20.25 15.75		
00748	SUNGLASSES (OVERXCAST POLARIZED) - gray color, medium Buy 2 pairs, price each	27.00 21.00	20.25 15.75		

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
S CONTINUED					
00758	SUPER ABSORBABLE SOY ISOFLAVONES - 60 caps Buy 4 bottles, price each	\$28.00 25.00	\$21.00 18.75		
01381	SUPERCritical OMEGA 7™	56.95	42.71		
01348	SUPERCritical OREGANOFORCE™ - 30 softgels	31.95	23.96		
01408	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		
01407	SUPER SAW PALMETTO W/BETA-SITOSTEROL - 30 softgels Buy 12 bottles, price each	15.00 12.00	11.25 9.00		
00578	SUPER SELENIUM COMPLEX - 200 mcg, 100 caps Buy 4 bottles, price each Buy 12 bottles, price each	12.00 10.00 9.00	9.00 7.50 6.75		
00674	SYTRINOL™ - 60 softgels Buy 4 bottles, price each	32.00 28.00	24.00 21.00		
T					
TAL-SHI™ COSMETICS • For information please call 1-800-544-4440 or visit www.LifeExtension.com					
01062	TART CHERRY - 600 mg, 60 caps	\$18.95	\$14.21		
00199	TAURINE - 1000 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		
00555	(L) THEANINE - 100 mg, 60 caps Buy 4 bottles, price each	24.00 20.50	18.00 15.38		
01038	THERALAC PROBIOTICS - 30 caps	44.95	33.71		
00224	THYMIC IMMUNE FACTORS - 100 caps Buy 4 bottles, price each	18.00 14.00	13.50 10.50		
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		
00359	TMG - 500 mg, 180 tablets Buy 4 bottles, price each	18.00 15.50	13.50 11.63		
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	TOOTH PASTE - 4 oz (Mint) Buy 4 tubes, price each	9.50 8.67	7.13 6.50		
01274	TOTAL SUN PROTECTION CREAM W/BETA GLUCAN - 4 oz Buy 4 tubes, price each	28.00 25.20	21.00 18.90		
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		
01386	TRUFIBER® - 180 grams	29.95	22.46		
00866	TRYPTOPURE® L-TRYPTOPHAN - 500 mg, 90 veg. caps Buy 4 bottles, price each	38.00 34.00	28.50 25.50		
01202	TRYPTOPURE® PLUS (OPTIMIZED) - 90 veg. caps Buy 4 bottles, price each	40.00 36.00	30.00 27.00		
01616	TWO-PER-DAY - 60 veg. tablets Buy 4 bottles, price each	10.50 9.50	7.88 7.13		

SUB-TOTAL OF COLUMN 17

No.		Retail Each	Member Each	Qty	Total
01615	TWO-PER-DAY - 120 veg. tablets Buy 4 bottles, price each	\$20.00 18.00	\$15.00 13.50		
01614	TWO-PER-DAY - 120 veg. caps Buy 4 bottles, price each	22.00 20.00	16.50 15.00		
00326	L-TYROSINE - 500 mg, 100 tablets Buy 4 bottles, price each	12.50 11.42	9.38 8.57		
U					
* 00310	UDO'S OIL 3-6-9 BLEND - 17 fl oz	\$27.79	\$22.23		
* 00311	UDO'S 3-6-9 OIL BLEND - 180 caps	34.79	27.83		
* 00322	UDO'S CHOICE® WHOLESOME FAST FOOD - 16 oz bottle	27.99	22.39		
01061	ULTIMATE FLORA ADVANCED IMMUNITY PROBIOTICS - 30 caps	29.99	22.49		
V					
00213	VANADYL SULFATE - 7.5 mg, 100 tablets Buy 4 bottles, price each	\$15.00 12.50	\$11.25 9.38		
00252	VELVET DEER ANTLER - 250 mg, 30 caps Buy 4 bottles, price each	36.00 34.00	27.00 25.50		
00408	VENOTONE - 60 caps Buy 4 bottles, price each	18.95 16.00	14.21 12.00		
01327	VINPOCETINE - 10 mg, 100 tablets Buy 4 bottles, price each	18.00 14.00	13.50 10.50		
01033	VISION OPTIMIZER - 90 caps	29.95	22.46		
01219	VITAMIN A NUTRISORB - 0.6 fl oz	27.00	20.25		
00091	VITAMIN B1 CAPS - 500 mg, 100 caps Buy 4 bottles, price each	18.73 17.00	14.05 12.75		
00093	VITAMIN B2 CAPS - 100 mg, 100 caps Buy 4 bottles, price each	14.32 13.00	10.74 9.75		
00096	VITAMIN B3 NIACIN - 1000 mg, 100 caps Buy 4 bottles, price each	12.75 12.00	9.56 9.00		
00372	VITAMIN B3 NIACIN - 500 mg, 100 caps Buy 4 bottles, price each	7.65 6.65	5.74 4.99		
00098	VITAMIN B5 - 500 mg, 100 caps (Pantothenic Acid) Buy 4 bottles, price each	10.50 9.38	7.88 7.04		
00556	VITAMIN B6 - 250 mg, 100 caps Buy 4 bottles, price each	12.50 11.00	9.38 8.25		
00361	VITAMIN B12 - 500 mcg, 100 lozenges Buy 4 bottles, price each	8.75 7.25	6.56 5.44		
00927	VITAMIN C WITH DIHYDROQUERCETIN - 1000 mg, 250 tablets Buy 4 bottles, price each	25.50 23.25	19.13 17.44		
00084	VITAMIN C (BUFFERED) POWDER - 454.6 grams Buy 4 bottles, price each	23.95 22.00	17.96 16.50		
00864	VITAMIN D3 - 2000 IU, 1 fl oz Buy 4 bottles, price each	28.00 25.00	21.00 18.75		
00251	VITAMIN D3 - 1000 IU, 250 caps Buy 4 bottles, price each	12.50 11.25	9.38 8.44		
00713	VITAMIN D3 - 5000 IU, 60 caps Buy 4 bottles, price each	11.00 9.90	8.25 7.43		
01418	VITAMIN D3 - 7000 IU, 60 caps Buy 4 bottles, price each	14.00 12.60	10.50 9.45		
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SUB-TOTAL OF COLUMN 18

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00063	VITAMIN E (PURE NATURAL) - 400 IU, 100 caps	\$18.75	\$14.06		
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	Buy 10 bottles, price each	15.00	11.25		
01225	VITAMIN K2 (LOW-DOSE) - 45 mcg, 90 softgels	18.00	13.50		
	Buy 4 bottles, price each	16.00	12.00		
Z					
01585	ZEAXANTHIN W/LUTEIN & MESO-ZEAXANTHIN AND C3G (SUPER) - 60 softgels	\$22.00	\$16.50		
	Buy 4 bottles, price each	19.80	14.85		
01586	ZEAXANTHIN W/LUTEIN & MESO-ZEAXANTHIN PLUS ASTAXANTHIN AND C3G (SUPER)	42.00	31.50		
	Buy 4 bottles, price each	38.00	28.50		
00061	ZINC LOZENGES - 75 lozenges	9.50	7.13		
	Buy 4 bottles, price each	6.75	5.06		
01051	ZYFLAMEND - 120 softgels	60.95	45.71		
01029	ZYFLAMEND EASYCAPS - 180 softgels	31.95	23.96		

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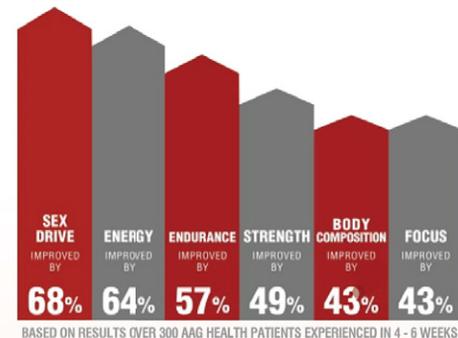
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By the age of 50, a man's testosterone level may only be 20% of what it was in his youth. This decline in testosterone occurs gradually, starting as early as his mid-30s, and can result in a loss of libido, and an increased risk of life-threatening illnesses such as obesity, diabetes, and heart disease.

The good news is that many symptoms of testosterone deficiency can be reversed by restoring youthful testosterone levels in a variety of ways. Millions of men are now using testosterone therapy for this reason.

TYPICAL RESULTS FOR AAG HEALTH PATIENTS



"Building muscle mass and bone density while reducing abdominal fat are well-established improvements in body composition observed in response to testosterone therapy."
Life Extension Magazine, December 2008

Beyond sexual dysfunction and loss of libido, testosterone deficiency can lead to a number of disturbing symptoms, including loss of stamina and lean muscle mass, anxiety, depression, insomnia, and cognitive decline. Known as "the andropause" these changes are the male equivalent of female menopause. A drop in testosterone is so gradual that the symptoms are often ignored or simply attributed to "getting older."

"Testosterone regulates many facets of energy balance, with an especially powerful impact on glucose, insulin, and fat metabolism. The deadly results of low testosterone therefore exceed simply causing obesity." Life Extension Magazine, October 2010

An increase in belly fat, weight gain, cardiovascular disease due to plaque formation (atherosclerosis), hypertension, osteoporosis, diabetes, and sexual dysfunction are intimately related to low testosterone levels in men.

"Testosterone is vitally important for both its anabolic properties, including effects on maintaining healthy cholesterol levels, protein synthesis, muscle mass, and bone density." Life Extension Magazine, February 2004

Testosterone replacement therapy has proven effective in reducing body weight, fatty tissue, insulin resistance, increasing muscle and bone mass, boosting energy and sexual desire, improving memory and mood, lowering cholesterol, and helping to prevent arterial plaque formation.



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Maintaining healthy, flexible joints is essential to quality of life. Joint stiffness and discomfort can stand in the way of performing even simple everyday tasks.

Most people do not obtain critical nutrients shown to support youthful joint function and mobility.

To meet this urgent need, **Life Extension**[®] introduces **Krill Healthy Joint Formula**, a patent-pending blend of deep-sea **whole krill oil** sourced in Antarctica, combined with **hyaluronic acid** and **astaxanthin**.

In a recent clinical trial involving over 100 maturing individuals, a **55% reduction** in joint discomfort was observed in less than three months, with **63%** of participants maintaining ease of motion.¹

THREE SYNERGISTIC COMPOUNDS FOR SUPERIOR BENEFIT

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Hyaluronic acid occurs naturally in the joints,⁴ where it acts to lubricate and cushion against repeated physical impacts.⁵ Because it forms a major component of cartilage and soft tissue,⁴ it is widely used to promote joint health.⁴⁻⁸

The difficulty has been that hyaluronic acid is a large molecule not well absorbed by the body. When combined with krill oil, it has been shown to reach significantly *higher* levels in the bloodstream than in standalone form.⁸

Krill oil is a natural source of the antioxidant carotenoid **astaxanthin**. Astaxanthin works in multiple ways, including suppression of free radical activity and enhanced mitochondrial function.⁹ It also maintains krill oil's molecular stability.

Most commercially available krill oils do not contain significant amounts of astaxanthin because it is nearly eliminated during processing. **Krill Healthy Joint Formula** is *fortified* with astaxanthin, for maximum stability and superior benefit.

JUST ONE SOFTGEL DAILY

The suggested daily serving of one **Krill Healthy Joint Formula** softgel daily supplies **353 mg** of this proprietary blend.

A bottle containing **30** softgels of **Krill Healthy Joint Formula** retails for \$32. If a member buys four bottles, the price is reduced to **\$21.75** per bottle. Just one softgel a day of **Krill Healthy Joint Formula** duplicates successful human clinical trials.

References

1. Valensa. (Data on File.) 2011.
2. *Altern Med Rev.* 2010 Apr;15(1):84-6.
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8. *World J Gastroenterol.* 2007 Feb 14;13(6):945-9.
9. *J Nutr Biochem.* 2010 May;21(5):381-9.

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40 DIETARY GLUCOSE CONTROL STRATEGY

The CR Way™ program enables people to enjoy low calorie meals and suppress after-meal (postprandial) blood glucose surges, thus decreasing a major risk factor for degenerative diseases.



78 IN CASE OF A NUCLEAR EMERGENCY

The Nuclear Regulatory Commission just announced that nuclear power plants in the central and eastern United States face previously unrecognized threats from big earthquakes. New seismic studies will be required for reactors to determine if the plants can withstand the shaking predicted by the new seismic model.



28 PROBIOTICS ALLEVIATE AGE-RELATED DISCOMFORTS

The new science of *pharmabiotics* substantiates the use of probiotic organisms to boost immune activity, reduce inflammatory conditions, and battle chronic intestinal discomforts.



50 APPLE EXTRACT EXTENDS LIFE SPAN

Scientists have found that apple polyphenols **increase the life span** of various species by **10 to 12%** and may help delay the onset of age-related disorders.



88 STIMULATE SELF-RENEWING SKIN CELLS

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