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

March 2012

OLIVE LEAF LOVVERS BLOOD PRESSURE

Synthetic Vitamin E Increases Prostate Cancer Risk

Dangers of Excess Iron

Corrupt Practices
That Are Bankrupting
Health Care

Exclusive Report from Resveratrol Conference





PLUS-

Coffee May Lower Risk of Endometrial Cancer High Antioxidant Diet Linked with Fewer Strokes Soy Consumption and Cancer Risk



Does Your Pharmacy Care if You Live or Die?

Today's chain pharmacies have become drug-dispensing assembly lines. They fill whatever your doctor prescribes or insurance covers, regardless of what is best for your individual needs. They also prominently display cigarettes at the front counter, a practice we find hypocritical and reprehensible.

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

Our Independent Thinking

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

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

If you are considering changing from Coumadin® to newer anti-coagulant drugs like Pradaxa®, we'll send you a special report that provides an unbiased review of the pros and cons of each drug.

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

against the lethal "Androgen Deprivation Syndrome."

Another example is the statin drug *Crestor*®. Recent studies reveal that it's not right for everyone who is taking it. Visit www.LifeExtensionRx.com/crestor for our in-depth analysis on the latest Crestor® study.

Tailored Services

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

Compare Life Extension's Pharmacy's Low Prices

Drug Name	Qty	Life Extension Pharmacy	n CVS	Savings
Simvastin 40 mg	90	\$14.71	\$117.99	88%
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Pradaxa 150 mg	60	\$235.45	\$289.99	19%
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Glyburide 5 mg	90	\$36.89	\$41.89	12%

* Prices as of 1/11/12. Prices subject to change.

Saving Your Money & Your Health

Life Extension Pharmacy® offers a range of ways to save you money including low-cost compounded drugs, life-saving prescription drugs at greatly discounted prices, and practical suggestions on how to conserve your health care dollars. To see how much we can save you, look at our prices on the above chart for popular prescription drugs compared to a large pharmacy chain.

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

LifeExtension®

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REPORTS

30 WRONG FORM OF VITAMIN E INCREASES PROSTATE CANCER RISK

Life Extension® long ago warned about the DNA-damaging effects of synthetic alpha tocopherol and our worst fears have been realized. A recent study showed that men taking this incomplete form of vitamin E had a 17% increased risk of prostate cancer. Find out how this study that used only **alpha** without **gamma** tocopherol was designed to fail from the outset.



58 DANGERS OF EXCESS IRON

In 1983, Life Extension® alerted members against the dangers of iron contained in commercial vitamin products. Now, increased levels of total-body iron have been conclusively linked to neurodegenerative brain disorders like Alzheimer's and **Parkinson's.** Fortunately, reversal of iron-induced damage is possible.



70 MEDIA LAUNCHES BIASED ATTACK **AGAINST SUPPLEMENTS**

A recent study used to undermine the value of multivitamin supplements is so profoundly filled with defects that it is impossible to extract relevant data from it. Not only is the lowa Women's Health Study scientifically unsound, it ignores the proven disease prevention benefits from comprehensive nutrient programs utilized by health conscious people today.



Findings from the 2010 Resveratrol Conference held in Denmark have validated Life Extension's long-held belief that resveratrol acts to combat the killer diseases of aging and delay the aging process itself. Discover resveratrol's 12 mechanisms of action and multimodal power to protect against diabetes, cancer, and heart



OLIVE LEAF LOWERS BLOOD PRESSURE

As we age, it is imperative to aggressively control rising blood pressure levels. The medical establishment, however, is accepting dangerously high blood pressure readings as being "normal." A bioactive olive leaf extract has been shown to lower systolic and diastolic blood pressure, providing a new weapon to help protect our aging vascular systems.





7 PHARMACEUTICAL CORRUPTION BLOCKS LOWER COST GENERICS

Frivolous lawsuits, back room payoffs, and specious insurance claims are just a few of the ways that pharmaceutical companies delay approval of generic drugs to boost profits at the expense of consumers and taxpayer-funded insurance programs. Find out steps that must be taken today to avoid outright catastrophe.

23 IN THE NEWS

Increased soy intake results in lower lung cancer risk; seaweed improves weight loss; omega-3 reduces risk of arrhythmia, and more.

BOOK REVIEWS

Dr. Gary Goldfaden's new book, Your Guide to Healthy Skin the Natural Way, The Golden Ratio Lifestyle Diet by Robert Friedman, MD, and Matthew Cross.

97 NEW LIFE EXTENSION **NUTRITION CENTER OPENS**

The brand new Life Extension Nutrition Center in Fort Lauderdale, Florida, was created to provide innovative anti-aging and wellness services under one roof. The Nutrition Center offers, in one location, a complete vitamin store, full-service pharmacy, knowledgeable health advisors, reference library, and blood lab.





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Extension's response to the need for a comprehensive digestive enzyme supplement. Designed to adapt to a variety of stomach acid pH conditions, **Enhanced Super Digestive Enzymes** facilitates more powerful digestion of protein, fat, carbohydrates, and milk lactose than our previous formula.

This formula has <u>more</u> potency than many commercial enzyme supplements, thus providing greater **digestive enzyme activity** at a far **lower cost**. One issue we have with this product is that some members use **Super Digestive Enzymes** to consume more calories than they should because they don't experience early satiety. Our long held position is that people should not over consume calories. We are also concerned that those seeking to lose weight will absorb

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Digestive Enzymes, which is the opposite of what one should do who is following a sensible weigh management program.

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IVVUV	eyetai	iaii Capsi	nies com	taiii.

Pancreatin 8x Blend	400 mg
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Protease III 22,880 FCC	
Lipase 6,400 FCC	
Plant-Based Enzyme Blend	290 mg
Protease II 780,000 FCC	
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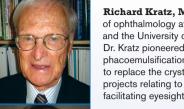
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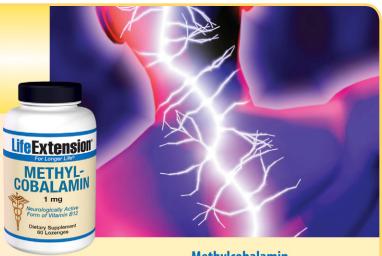
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Item # 00536



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Methylcobalamin 5 mg dissolve-in-mouth lozenges

60 lozenges Four bottles	\$ 32 \$100	\$24 \$18.75 each	
Ten bottles	\$230	\$17.25 each	
Contains corn			

Crooked Practices That Are Destroying Our Health Care System



BY WILLIAM FALOON

Article reviewed & critiqued by Stephen B. Strum, MD, FACP, LE Scientific Advisory Board Member

Health care *corruption* is driving this nation into economic insolvency.

A particularly disgusting method used to <u>inflate</u> **drug prices** is the filing of *frivolous* lawsuits against generic drug makers. Each <u>day</u> a court delays approval of a lower-cost generic can enable a pharmaceutical company to earn **millions of dollars** in illicit revenue.

It thus becomes **cost-efficient** for pharmaceutical companies to initiate limitless made-up claims against generic makers knowing that legal fees are far less than the profits earned each *extra* day that its expired-patent drug retains market exclusivity.

The filing of lawsuits against generic manufacturers for the purpose of delaying FDA approval has gone on for years. Once the generic maker defeats the imaginary claims, it then has to charge more to the consumer because of the **millions of dollars** it was forced to squander on legal fees. This is just one reason why **generic drugs** cost far more than they should.¹⁻¹¹

As Americans are painfully aware, runaway medical costs are adversely impacting every segment of the US economy. Government health care programs are mathematically insolvent, medical insurance premiums are at unprecedented levels, and consumers are shouldering a far greater portion of their health care with out-of-pocket dollars. ^{12,13}



HOW THE CORRUPT SYSTEM OPERATES

When considering whether to approve a generic drug, the FDA is caught in the middle as pharmaceutical companies who own name-brand drugs create myriad obstacles to deny others the right to sell generic versions.

A pharmaceutical company with an expiring patent may pay enormous legal and lobbying fees to file petitions with the FDA arguing why it is not in the public interest to allow a low-cost generic to compete. Generic companies then have to respond by paying their own legal and lobbying costs to make their counterargument. The FDA plays referee in what often turns out to be a multi-year battle between a large pharmaceutical company and generic makers.14

None of this bureaucratic waste would occur in a free-market setting, but our cowardly Congress has failed to enact reforms-measures that Life Extension® long ago proposed to eliminate the corrupt behavior that routinely transpires between drug companies and the FDA 15,16

DEPRAVED BEHAVIOR SINKS TO NEW LEVEL

As unproductive as these generic drug wars are, a Senate investigative panel has uncovered misdeeds that brings this depraved behavior down to a level of immorality that may shock even ardent supporters of today's broken health care system.

Lovenox® is the brand name of a low-molecular weight heparin drug used to treat venous blood clots, pulmonary embolism, and various forms of arterial thrombosis. Back in 2002, Life Extension® suggested that its anticoagulant properties could benefit cancer patients by preventing acute thrombotic attacks, while reducing metastatic potential by blocking pro-angiogenic factors. 17,18

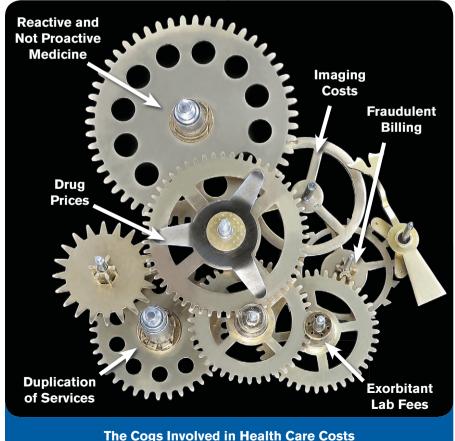
As a result of its efficacy against a wide range of ailments, global sales of Lovenox® topped \$4 billion in 2009.19 Its maker, Sanofi SA, desperately wanted to stifle generic competition as it was about to lose patent protection.

Sanofi first tried to hold off generic competition by filing a suit in federal court intended to block FDA approval of generic versions made by other companies. After this delay tactic failed in two court cases, Sanofi then filed a safety petition with the FDA alleging that it was against the public interest to allow a low-cost generic to be sold.20

To further bolster its case, Sanofi encouraged doctors and medical associations to contact the FDA and express concern about the safety of generic versions of Lovenox®.21,22 While these underhanded maneuvers have become commonplace amongst pharmaceutical giants, Sanofi was caught red-handed acting at a level of unprecedented decadence.

SANOFI PAYS FEES TO THIRD PARTIES TO MISLEAD FDA

Realizing FDA was not capitulating to its intensive lobbying efforts, Sanofi used payments of almost \$5 million to induce influential groups to contact the FDA and support its petition to deny other companies the right to sell generic Lovenox®.23



Sanofi made the following "donations" to third parties²⁴:

- \$2.6+ million to the Society of Hospital Medicine
- \$2.0+ million to the North American Thrombosis Forum
- \$200,000+ to a Duke University Professor

In exchange for these and other payments, the **FDA** was lobbied with seemingly *impartial* concerns about the safety of generic Lovenox[®]. The purpose of these FDA contacts, of course, was to argue *against* approval of generic alternatives to Lovenox[®]. If successful, Sanofi would continue to earn billions of dollars from a drug that long ago lost patent status.

What upset the Senate investigative panel, however, was that none of these ostensibly unbiased third parties had disclosed to the FDA that they had been paid by Sanofi to support the lucrative Lovenox monopoly. The FDA was misled into believing that these parties had legitimate safety concerns, when in reality they functioned as paid shills whose mission was to assist Sanofi in maintaining its multibillion gusher at the expense of Medicare. Medicaid. health insurance premium payers and ultimately, the American consumer.

The Duke University professor denied the monies he received from Sanofi had anything to do with him contacting the FDA, but admitted he should have *reminded* the FDA of his financial ties to Sanofi in his letter arguing against approval of generic Lovenox[®]. ²⁵

According to the Senate investigative panel conclusions, Sanofi "planned a coordinated strategy to delay generic alternatives to its blockbuster blood-thinner drug Lovenox.®"26



CALLS FOR MANDATORY TRANSPARENCY

Pharmaceutical influence within the FDA is common knowledge, but Sanofi's financial contributions to third parties and other actions raised red flags as to the scientific integrity of the generic drug approval process. These payments made by Sanofi to third parties provided these supposedly independent groups incentive to contact the FDA to express what appeared to be *unbiased* concerns about generic alternatives to Lovenox®.

The strategy took advantage of the FDA's citizen petition process, which allows individuals and experts to raise these kinds of safety concerns. While the process is intended as a channel for gathering public input into important agency decisions, the Senate investigative committee was infuriated by this egregious abuse of process.

"If the FDA isn't asking for disclosure of financial relationships, it's operating from an uninformed standpoint," said one of the Senate committee members that exposed this deceit. This Senator went on to state that "The FDA has a responsibility to conduct due diligence in this area in order to make sure its reviews have credibility."²⁶

The chairman of the Senate committee took it a step further and stated, "This report uncovers evidence that paying off doctors to lobby the FDA against generics was a drug company strategy—and that's wholly unacceptable." 26

While the Senate investigative committee expressed outrage over Sanofi's shady behavior, **Life Extension** members have long been informed about how these kinds of insidious scandals are bankrupting this nation's health care system. ^{16,27-30} The harsh reality is that **conflicts of interest** within the FDA preclude the agency from making *scientific decisions* about products that affect whether Americans live or die.

Three Current Flawed FDA Methods of Operation

The reason so many drugs approved by the FDA later turn out to be dangerous or ineffective is the inherently corrupt collaboration that exists between pharmaceutical companies and the FDA. Here are <u>three</u> reasons why serious reform is needed:

 PROBLEM: FDA panel members are part-time employees and cannot perform with optimal due diligence to review new drugs and/or devices presented to the FDA.

RESULT: Drugs or devices are rejected inappropriately or approved inappropriately.

SOLUTION: Given the billions of health care dollars already spent and the problems with premature approval or rejection, the employment of an FDA panel member should be a full-time position. Moreover, what constitutes "conflict of interest" should be explicitly defined and no conflict of interest, whatsoever, should be permitted. In other words, it is not enough to state you are on the payroll of a pharmaceutical company and therefore all is well. If you are being paid to do research or paid to speak on behalf of a pharmaceutical company, or in any way have ties that would alter full objectivity of a decision for or against, that should be grounds for recusing yourself from the FDA matter on review. This rule should be unwaveringly enforced!

2) PROBLEM: FDA panel members receive a significant portion of income from drug research in their institution funded by a pharmaceutical company whose product may be up for review. That presents a situation which represents a flagrant conflict of interest.

RESULT: Drug approvals or rejections are often based on financial bias, not the underlying science.

SOLUTION: Zero tolerance for any conflict of interest for those who serve on an FDA drug advisory panel. Panel members should not be funded by any pharmaceutical company nor have any remote potential conflict of interest in voting yea or nay. An objective evaluation of the scientific merit of a device or drug cannot be rendered in the face of ulterior motives, be they at a conscious or subconscious level.

3) PROBLEM: FDA panel members are paid by pharmaceutical companies to make presentations at conferences and at national society meetings.

RESULT: This is not only a conflict of interest but it also influences the decision-making relating to the approval and prescribing of a particular drug.

SOLUTION: If a physician-scientist is on a lecture circuit and being paid by a pharmaceutical company, they should not be allowed to sit on an FDA panel that decides on the approval of a drug made by the pharmaceutical company. The solution for most of these problems is simple: an FDA panel member should not have any involvement—blatant or remote—in any company seeking approval for a product.

PFIZER CONCEALS SUICIDAL SIDE EFFECTS

A side effect of many FDAapproved drugs on the market today is their propensity to sharply increase suicide risk.

For those who don't know, suicide is the 8th leading cause of death (for persons aged 55-64) in the United States.³¹ Depression is a leading underlying medical cause of suicide. The fact that many anti-depressant drugs now require **black box warnings** of increased risks of suicide is a testament to horrific side effects these drugs inflict.

Many users of anti-depressant drugs report they feel more depressed after taking them (or encounter other side effects), which begs the question as to how these drugs ever gained FDA approval in the first place. 32-37 In many instances, the increased risk of suicide was later found to be **covered up** by pharmaceutical companies during the initial approval process. 38,39

Chantix® is the brand name of a drug made by Pfizer and



approved by the FDA to help people stop smoking cigarettes. Chantix® works by altering brain chemistry to reduce nicotine craving. A side effect of this brain chemical alteration is an increased propensity to commit suicide, along with other psychological impairments. 40-42

Not wanting to interfere with the **lucrative** sales of this drug, Pfizer devised a method to conceal the reports of suicide—reporting that is a mandatory requirement of the FDA. Rather than identifying the reports of suicides, suicide attempts, depression, aggression, and hostility in users of Chantix®. Pfizer instead mixed them among some 26,000 records of non-serious side effects such as nausea and rashes. 42-46 This prevented the FDA from identifying a trend of serious adverse effects that were occurring in Chantix® users.



FDA BLACK BOX WARNING

In response to increased suicides in children (and adults) prescribed certain anti-depressant drugs, the FDA has mandated the following warning:

Contact your doctor if your child experiences any of the following while taking antidepressants:

- Thoughts about suicide or dying
- Attempts to commit suicide
- New or worse depression
- New or worse anxiety
- Feeling very agitated or restless
- Panic attacks
- · Difficulty sleeping (insomnia)
- New or worse irritability
- Acting aggressive, angry or violent
- Acting on dangerous impulses
- Extreme increase in activity or talking
- Other unusual changes in behavior or mood

Pfizer was accused by the FDA of submitting these adverse reports through "improper channels" that made it impossible for the agency to determine that so many serious adverse reactions to Chantix® were occurring.45,47 Thomas J. Moore, an official at the non-profit Institute for Safe Medication Practices stated "We've had a major breakdown in safety surveillance."45 In sworn testimony, Chantix® was described as causing twice as many reported fatalities as any other drug. Pfizer responded by stating there is no proof that Chantix® causes suicides or other side effects. 45,46

FDA'S RESPONSE TO **PFIZER'S MISDEED**

The FDA's response to this latest scandal was to force Pfizer to resubmit all reports of adverse reactions through the "proper channel" that would enable the agency to identify serious problems such as suicide, depression, and other psychiatric disorders induced by Chantix®.

FDA officials said these new reports did not change the agency's position on the risks and benefit of the controversial drug, which received a black box warning that included suicide—the strongest caution possible—in 2009. In other words, other than warning of the lethal side effects a user of Chantix® faces, the FDA has no plans to withdraw it from the market.

FDA officials did say they are considering changing regulations to allow expedited reports of suicides and other serious problems. This change was first proposed by the FDA in 2003, but is still pending. This is just another example of the glacial pace at which the FDA moves even as body counts pile up from side effects inflicted by prescription drugs the agency erroneously approves and then allows to remain on the market far too long.

A one-month supply of Chantix® costs about \$179, which is typical of what patented drugs now sell for.



Suicide Risk of Chantix® **Higher than Expected**

As we were finishing this article, a new study found that Chantix® was 8 times more likely to result in reports of suicidal behavior or depression compared to nicotine-replacement products.48

The findings contradict those of the FDA that found Chantix® did not increase the risk of being hospitalized for psychiatric problems such as depression.

The authors of this new study stated that the FDA hospitalization studies were flawed because they could not capture most of the serious psychiatric side effects, including suicide, depression, aggression, and assaults.

Another reason FDA failed to ascertain the magnitude of the problem with Chantix® is they omitted suicidal and depression events that did not lead to hospitalization. These can be catastrophic events but do not normally result in hospitalization.49

PFIZER SEEKS TO DELAY SALES OF GENERIC LIPITOR®

According to the New York Times, the largest introduction of a generic drug in history is being impeded in another devious scheme perpetrated by Big Pharma.

Lipitor® is the best-selling drug of all time, generating sales of \$106 billion over the last decade. Pfizer has told financial analysts it is preparing for the loss of Lipitor®'s patent with a variety of business moves to preserve market share.

In a letter to pharmacists, Pfizer is asking many drugstores to block prescriptions for a generic version of Lipitor®. This cholesterol-lowering drug lost patent protection on November 30, 2011.50

One of the nation's largest pharmacy benefit managers issued instructions seeking to have pharmacists keep filling prescriptions with the more expensive Lipitor® for six months. Pfizer will provide large discounts to benefit managers that block the use of generic versions of Lipitor®.

This tactic will benefit Pfizer and benefit managers at the expense of employers and taxpavers, who are on the hook for paying more than they should for an off-patent drug.

Pharmacy benefit managers function as middlemen between drug companies and insurers and employers that sponsor health insurance plans. In too many cases, these "pharmacy benefit managers" function as shills for pharmaceutical companies to cause more expensive name-brand drugs to be used in place of low-cost generics.

HOW GENERIC PRICE GOUGING IMPACTS **MEMBERS**

Through the International Strategic Cancer Alliance that was founded five years ago, we at Life Extension are constantly interacting with patients who utilize offlabel drugs to better control their disease. Since insurance does not fully cover these medications. patients are finding it difficult to afford the cost of their medications. Here is an email excerpt from a prostate cancer patient regarding a generic medication he is using:

"Cabergoline is very costly, around \$600 for 60 days' supply. This has eaten up my insurance allowance for drugs. Your latest email indicates necessity, but is it possible to lessen amounts taken without hindrance to outcomes?"

Cabergoline is a generic drug that suppresses *prolactin* release from the pituitary gland. Life Extension has long recommended this drug to certain cancer patients, though it is not recognized by the FDA for this purpose.⁵⁵ Prolactin makes prostate cells more sensitive to the growth-promoting effects of testosterone. By reducing prolactin levels, cabergoline has a potential role in prostate cancer treatment. In addition, lowering prolactin results in a reflex increase in dopamine, which has the beneficial effect of inhibiting angiogenesis—the formation of new blood vessels that facilitate the growth and spread of most cancers. Furthermore, increased dopamine





Johnson and Johnson Settles **Bribery Complaint for \$70 Million**

As was reported in the **New York Times** last year, pharmaceutical behemoth Johnson & Johnson admitted to bribing European doctors and agreed to pay \$70 million in civil and criminal penalties.⁵¹

The bribes were so egregious that one copy of an internal company email stated that providing "cash incentives to surgeons is common knowledge in Greece, and that once a company stops paying bribes, "We'd lose 95% of our business by the end of the vear."50

The Securities and Exchange Commission director stated that Johnson & Johnson tried to hide its activities by "using sham contracts, offshore companies and slush funds."50

In the United States, these same kinds of activities have been uncovered whereby doctors have been paid cash kickbacks to prescribe prescription drugs against the interest of the patient. 52-54

enhances neurotransmission which improves clarity of thinking or cognition. Therefore, cabergoline is a true multi-tasking pharmaceutical agent that increases the therapeutic index or ratio.

The patient who sent us this email concerned about the high cost of cabergoline may risk his life by taking a lower-than-recommended dose because he can no longer afford it. Yet this is an offpatent generic drug that should cost only a fraction of what is being charged. Generic drug prices change daily, so by the time this article is published, generic cabergoline might once again be affordable, or it could cost even more.

A physician on the Life Extension's Scientific Advisory Board wrote us about eve drops he needs for glaucoma that will cost \$99.20 a month for the rest of his life, despite having Medicare and AARP. That's \$1,200 a year just for eve drops. This physician wonders how our health care system can tolerate such blatant price gouging. A calculation of the price for the generic version of this eye drug is \$2.50 per drop, which prompted the dispensing pharmacist to say to the doctor, "This is a license to steal."

Life Extension® has published over the past four decades about how generic drug prices are artificially inflated because of FDA over-regulation and pharmaceutical industry corruption.

AS WE SEE IT

WHAT WE ARE DOING TO FIGHT BACK

The October 2011 edition of Life Extension Magazine launched a new book titled *Pharmocracy*. This book exposes how pharmaceutical companies collude with their allies in the FDA and Congress to cause inflated drug prices.

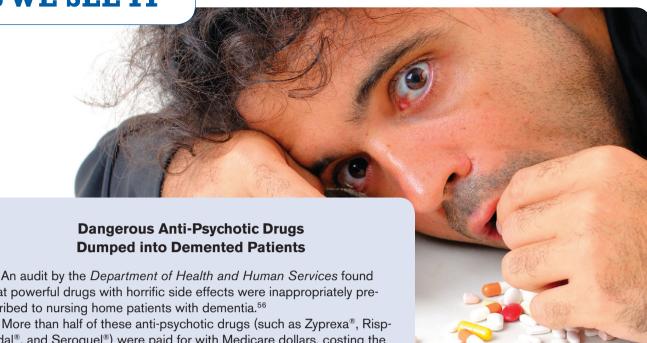
Copies of *Pharmocracy* have been sent to the president, all presidential candidates, and every member of Congress. The purpose is to enlighten political leaders about free-market approaches that can resolve today's health care cost crisis that will otherwise put Medicare, Medicaid, and the private sector on the chopping block of bankruptcy.

We initiated a massive promotion to get this book into the hands of policy-making think tanks and to the public. We need to alert them to the harsh reality that it is mathematically impossible to resolve the health care cost crisis by increasing taxes, slashing payments to doctors, or asking Medicare recipients to pay more toward their own medical expenses.

The only solution to overpriced medicine is to abolish all restrictive bureaucratic regulations and let the free market do for medical practice what it did for computers and cell phones, i.e. enable scientific breakthroughs of unparalleled magnitude to occur at rapid speed while slashing consumer costs to comparatively nothing.

I want to thank Life Extension members who purchased four copies of *Pharmocracy* (at only \$8 each) to personally send one each to their two senators and representative.

For those who have not done this yet, please do not let apathy stop you from letting your voice be heard in Congress. In Syria,



that powerful drugs with horrific side effects were inappropriately prescribed to nursing home patients with dementia.56

More than half of these anti-psychotic drugs (such as Zyprexa®, Risperdal[®], and Seroquel[®]) were paid for with Medicare dollars, costing the program \$116 million over just a six-month period. These drugs are not approved for use in demented individuals because the FDA says they increase the risk of death!57

In announcing the audit results, the inspector general of the Department of Health and Human Services stated, "Government, taxpavers, nursing home residents as well as their families and caregivers should be outraged and seek solutions."57

A pharmacy chain for nursing homes called Omnicare Inc. paid \$98 million in November 2009 to settle accusations that it received kickbacks from Johnson & Johnson and other drug makers for antipsychotic prescriptions.57

In 2008, Eli Lilly, maker of Zyprexa®, settled a lawsuit with the state of Alaska for \$15 million based on claims that this drug caused patients to develop diabetes.⁵⁸ Despite this serious side effect, Zyprexa® was nonetheless among the drugs dumped into the bodies of elderly demented patients-often at Medicare's expense.

The real shocker is why these anti-psychotic drugs were ever prescribed in the first place. It turns out that these drugs are used to sedate demented patients into a drugged state where they can easily be "watched." In other words, instead of meeting the needs of the patient, they are instead drugged into a state where there is less need for oneon-one nursing care.

The care of these demented patients was thus facilitated by prescribing drugs that cause them to die sooner. In case you are wondering about the cost per patient, 30 tablets of Zyprexa® (10 mg/pill) cost over \$440, and Medicare and other insurance are paying most of this!

Zyprexa® has a half-life of 21-54 hours that is 1.5 times greater in those over age 65. This means that many demented patient prescribed Zyprexa® were kept in a chronically drugged state for the duration of their lives, while pharmaceutical giant Eli Lilly took in around \$14 per pill! This is just one of many reasons why Medicare is descending into insolvency.

protestors are being murdered in the streets and dragged from their homes, yet they still defy government edicts knowing that snipers are waiting to kill them. For just \$32, you can obtain four copies of Pharmocracy and send them to those in our government who have the power to change the **corrupt** health care system that is bankrupting this country.

While it may seem impossible to dislodge the stranglehold that pharmaceutical interests hold over the federal government, I am convinced that unrelenting exposition of the truth will tear down corrupt barriers that cause consumers to be serfs of the pharmaceutical industry.

For longer life,

William Faloon

Sick-care costs are *bankrupting* the United States. Fight Back Against Incompetent Bureaucrats!

Do you realize that the battle in Congress over the **budget deficit** is largely irrelevant?

That's because government programs like **Medicare** and **Medicaid** are so grossly <u>underfunded</u> that their costs will soon overwhelm all federal revenues.

The reason you don't hear more about this catastrophic problem is that no one in government has the faintest idea how to resolve it.

That's why I wrote the book *Pharmocracy*. It provides a real-world <u>solution</u> to this nation's impending healthcare cost crisis. It also outlines the logic of <u>eradicating</u> **bureaucratic barriers** that prevent cures for today's killer diseases from being discovered.

The average annual cost of **medical insurance** for a family exceeded the **\$15,000** mark for the first time.* This represents a **9% increase** over year 2010—an unsustainable escalation that exceeds inflation.

A typical family <u>cannot</u> afford basic health care, neither can many employers, and certainly <u>not</u> debt-laden state and federal governments.

Health Care Cost Crisis is a Hoax

There is no <u>real</u> 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 <u>down</u> 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.

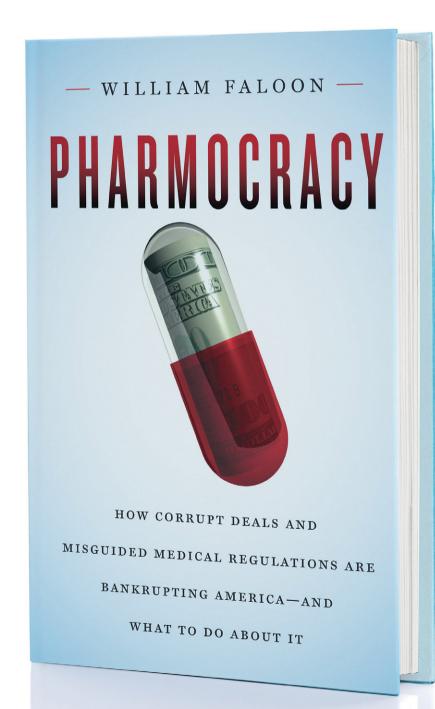
How Citizens Can Combat Inflated Health Care Costs

The cover price for **Pharmocracy** is \$24. To get this hardcover book into the hands of as many policy-makers as possible, **Life Extension**® is making it available at the incredible low price of just **\$8** a copy when four or more copies are ordered.

Health freedom advocates are encouraged to send this eye-opening book to their representative, two senators, and give it away as **gifts** to enlighten those they know about the **health care farce** that is rendering this nation insolvent.

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 Annual poll of employers performed by the Kaiser Family Foundation and the Health Research and Education Trust.



Item # 33835 Cover price: \$24 Single copy member price: \$9.60

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



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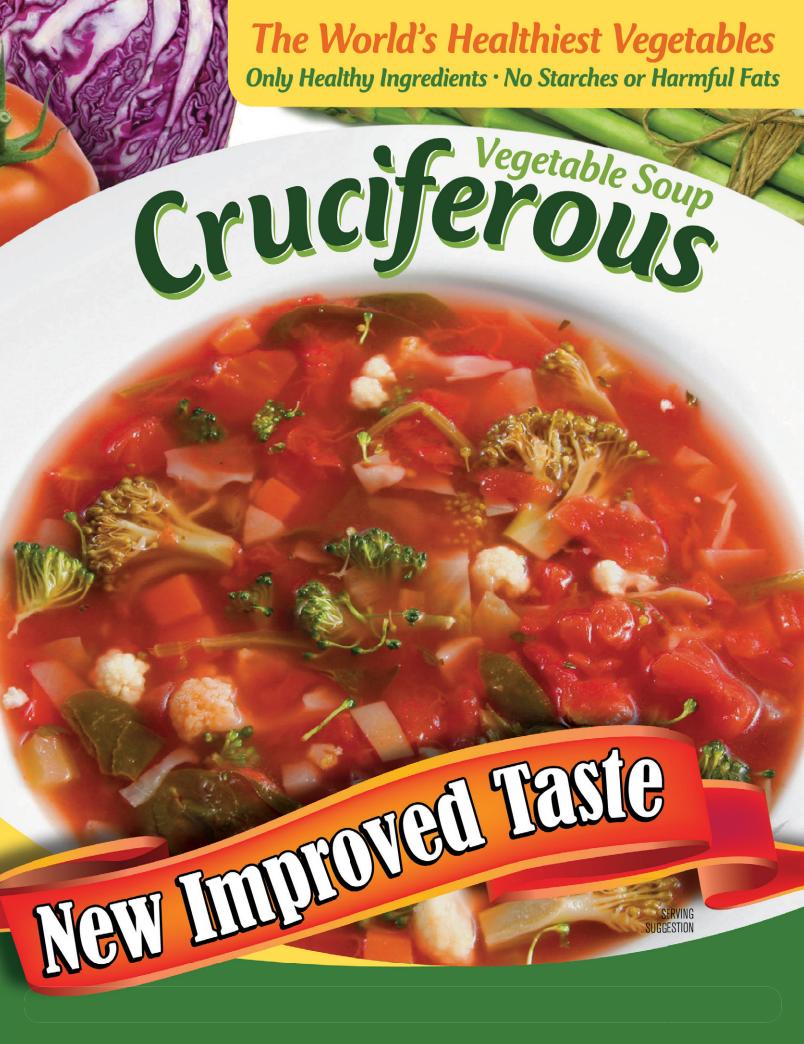
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Processed food companies sell vegetable soups so cheaply because they load them with *high-glycemic* carbohydrates (rice, potatoes, pasta) that cost virtually nothing. They then add inexpensive ingredients like corn, sugar, and sometimes omega-6 fats (like cottonseed oil). So for less than \$2, you get a relatively high-carb-calorie soup that provides virtually no health benefits.

Life Extension® has formulated two vegetable soups that contain only healthy ingredients, including loads of **cruciferous vegetables** (cauliflower, broccoli, cabbage, etc.), **extra-virgin olive oil**, and a host of other beneficial **plant foods**.

Each serving of **Cruciferous Vegetable** and **Asian Cruciferous Vegetable** soup contains only **80 to 90 calories** of the best-documented foods to maintain your precious health. You can consume the entire contents as a healthy lunch or dinner, or use a smaller portion of the soup as part of a meal for you (or several people).

Each **80-90 calorie** serving of these new soups provides a **full serving** of the world's healthiest vegetables. The entire pouch supplies about **3.5 servings** of these vegetables—with <u>none</u> of the cheap starch fillers found in commercial soups.

The retail price of either the **Cruciferous Vegetable** or **Asian Cruciferous Vegeta- ble** soups is \$11.95. Member price is **\$8.96**.

If a **Life Extension**® member purchases any assortment of six pouches, the price is reduced to **\$8.44** per pouch.

To order your fresh supply of Life Extension's

Cruciferous Vegetable or the Asian Cruciferous Vegetable soups, call 1-800-544-4440 or visit www.lef.org/soup



Item # 01519



Item # 01520

Souper tasty. Souper Satisfying.

You know you don't eat enough veggies.

So **Life Extension**® cooked up a convenient, tasty way to spoon-feed you these souper foods.

These soups provide unique garden-fresh ingredients, such as cruciferous vegetables, tomatoes, carrots, and other beneficial plant foods plus heart-healthy extra virgin olive oil.

You can consume the entire contents as a lunch or dinner, or use a smaller portion as a starter. The convenient resealable package will help keep your soup fresh and fresh tasting, and without the BPA found in many canned soups.

Each of these soups provides:

A full serving of vegetables per serving (or about 3.5 servings of healthy vegetables per pouch)

Less than 100 calories per serving

No added starches, preservatives, or sugars!

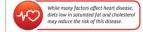
Excellent source of cruciferous vegetables

Low total fat per serving

No saturated fat or cholesterol

Og trans fat





Cruciferous Vegetable Soup

Nutrition Facts

Serving Size 1 cup (245g) Servings Per Container about 3.5

Amount Per Serving			
ories from F	at 30		
% Daily \	lalue *		
3g	5%		
0g	0%		
0g			
0mg	0%		
105mg	4%		
t e 12g	4%		
2g	8%		
8g			
3g			
	% Daily \ 3g 0g 0g 0mg 105mg 12g 2g 8g		

Vitamin A 80% • Vitamin C 80%
Calcium 6% • Iron 10%

*Percent Daily Values are based on a 2,000

 calorie diet. Your daily values may be higher or lower depending on your calorie needs:
 calories:
 2,000
 2,500

 Total Fat
 Less than
 65g
 80g

 Saturated Fat
 Less than
 300mg
 25g

 Cholesterol
 Less than
 3,00mg
 300mg

 Sodium
 Less than
 2,400mg
 2,400mg

 Total Carbohydrate
 300g
 375g

 Dietary Filber
 25g
 30g

Calories per gram: Fat 9 • Carbohydrates 4 • Protein 4

Ingredients: Diced Tomatoes in Juice (tomatoes, tomato juice, citric acid, calcium chloride), Water, Tomato Paste, Carrots, Celery, Cauliflower, Green Cabbage, Red Cabbage, Broccoli, Spinach, Brussels Sprouts, Chicken Broth, Asparagus, Extra Virgin Olive Oil, Red Bell Pepper, Garlic, Parsley, Thyme, Basil, Bay Leaf, Black Pepper.

Asian Cruciferous Vegetable Soup

Nutrition Facts

Serving Size 1 cup (245g) Servings Per Container about 3.5

Amount Per Serv	ing	
Calories 80	Calories from	Fat 20
	% Daily	Value *
Total Fat	2g	3%
Saturated Fat	0g	0%
Trans Fat	0g	
Cholesterol	0mg	0%
Sodium	115mg	5%
Total Carbohy	drate 12g	4%
Dietary Fiber	2g	8%
Sugars	8g	
Protein	3g	
Vitamin A 60%	 Vitamin (30%

Vitamin A 60% • Vitamin C 80%
Calcium 4% • Iron 10%

*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs:

lower depending on your calone needs.				
		Calories:	2,000	2,500
	Total Fat	Less than	65g	80g
	Saturated Fat	Less than	20g	250
	Cholesterol	Less than	300mg	300mg
	Sodium	Less than	2,400mg	2,400mg
	Total Carbohydrate		300g	3750
	Dietary Fiber	25g	300	
	Calarias nas ass			

Fat 9 • Carbohydrates 4 • Protein 4

Ingredients: Diced Tomatoes in Juice (tomatoes, tomato juice, citric acid, calcium chloride), Water, Tomato Paste, Bok Choy, Broccoli, Red Cabbage, Cauliflower, Carrots, Onion, Red Bell Pepper, Green Onion, Chicken Broth, Extra Virgin Olive Oil, Cilantro, Garlic, Pepper Sauce (aged red peppers, distilled vinegar, salt), Ginger, Black Pepper. 40m # 01530

NEW IMPROVED BLUEBERRY FLAVOR!

Calorie Control Weight Management Formula Now with Green Coffee Bean Extract

Nearly **80%** of *highly motivated* people fail to achieve long-lasting **weight loss** with diet and lifestyle modifications alone.1

That's why the Calorie Control Weight Management Formula was designed.

Clinical studies validate that when overweight humans take just some of the *natural* **ingredients** in this formula combined with reduced calorie intake, there is a greater loss of body fat compared to diet alone.²⁻⁴ Calorie Control Weight Management Formula with CoffeeGenic™ Green Coffee Extract can help give you the winning edge when following a calorie-modulated weight loss program.

The new Calorie Control Weight Management Formula comes with a natural blueberry flavor that tastes far smoother than the original version. This powder mix is available in a 60-serving bottle and in individual stick packs that you can conveniently use when away from home.

Most important, each dose has been fortified with 200 mg of CoffeeGenic™ Green Coffee Extract to suppress after-meal glucose surges that can sabotage the best weight management programs.



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.

Comprehensive Calorie Management

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

- 1. CoffeeGenic™ Green Coffee Extract standardized to 50% chlorogenic acid. Research shows this extract inhibits *glucose-6-phosphatase*, ⁶ which results in a significant <u>reduction</u> in *after-meal* glucose elevations. ⁵ CoffeeGenic™ Green Coffee Extract also helps impede rapid absorption of starches and sugary foods by neutralizing enzymes that enhance their absorption into the bloodstream. ⁷
- 2. LuraLean[®]. A proprietary fiber, LuraLean[®] swells in the stomach after ingestion with water to help reduce calorie consumption. LuraLean® binds to bile acids in the small intestine and helps transport them out of the body. These bile acids otherwise facilitate the digestion and assimilation of **dietary fat** into the bloodstream. LuraLean® also slows the rapid emptying of ingested food into the small intestine, thereby reducing the surge of **glucose** entering the bloodstream. LuraLean® works better than other fibers because its own enzymes have been removed, thus sparing it from degradation in the digestive tract. This enables LuraLean® to form a stable viscous barrier to help impede calorie absorption and maintain its sponge-like activity throughout the digestive tract. In placebo-controlled studies, LuraLean® has induced weight loss along with significant reductions in fasting lipid and post-meal glucose/insulin levels.8,9
- **3.** White kidney bean extract. This natural plant extract inhibits the *amylase* enzyme in the digestive tract.¹⁰ Amylase breaks down carbohydrates that are then absorbed into the bloodstream as glucose. White kidney bean extract has produced weight loss and abdominal fat reductions, along with significant reductions of triglycerides in placebo-controlled trials.^{4,10}
- 4. Irvingia gabonensis. Extracted from the African mango, irvingia regulates leptin to decrease appetite and facilitate triglyceride removal from adipocytes; inhibits glycerol-3-phosphate dehydrogenase to reduce the conversion of glucose into glycerol in adipocytes; and up-regulates adiponectin to facilitate insulin sensitivity. Irvingia has demonstrated favorable weight loss results in placebo-controlled trials.²
- **5. Green Tea Phytosome.** This proprietary green tea extract **absorbs** much better into the bloodstream to boost *resting metabolic rate.* ¹³ In a controlled clinical study, this green tea phytosome induced **30.1 pounds** of weight loss when combined with a reduced-calorie diet. ¹⁴

Importance of Taking Calorie Control Weight Management Formula <u>Before</u> Heavy Meals

Once we accept the fact that weight loss requires more than diet and exercise alone, it becomes easy to understand the importance of taking the **Calorie Control Weight Management** formula <u>before</u> the two heaviest meals of the day.

Each appetizing blueberry flavored stick pack or scoop of the new Calorie Control Weight Management Formula with CoffeeGenic™ Green Coffee Extract, powder provides:

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

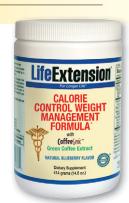
Calorie Control Weight Management Formula with CoffeeGenic™ Green Coffee Extract • Item # 01693*

(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 bottles, the price is reduced to just **\$45** per bottle. **Item # 01694***

Contains soybeans. Contains corn.



Item # 01693



Item # 01694

References

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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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Integra-Lean® Irvingia is protected by U.S. Patent No. 7,537,790. Other patents pending. Phase 2° is used under license. Lura-Lean® is a registered trademark of AHD International LLC.

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

Discover the European "Secret" to **Youthful, Healthy Legs**

Combat Unsightly Veins with This High-Potency Extract

30 YEARS OF CLINICAL EVIDENCE BRINGS LONG-AWAITED RELIEF

It is estimated that *half* of all women in the United States will develop unsightly veins by age 50.1 While dermatologists often suggest surgery to correct this "age-related" issue, European women have enjoyed access to a **natural solution for 30** *years!*

Life Extension® offers American women the same extract without a prescription. No more compression bandages or stockings. Instead, experience the same beautifying effects European women have been raving about for three decades—naturally!

Derived from the <u>sweet orange</u>, **European Leg Solution featuring Certified Diosmin 95** contains a plant-based nutrient called *diosmin* and is available in a vegetarian tablet.

MICRONIZED FOR GREATER EFFECTIVENESS

In order to derive <u>any</u> significant benefit, bioactive diosmin extract **must** be able to reach veins directly.

Life Extension®'s proprietary extract undergoes a complex, highly refined process called **micronization**. It yields the only *form* of diosmin clinically proven to support healthy vascular function in the legs.^{1,2}

This scientifically controlled, multi-phase technique *radically reduces* the size of the standard diosmin particles contained in each <u>tablet</u>, from **37 microns** to less than **2 microns**. The result is an optimally bioavailable standardized extract. This ensures <u>rapid</u>, <u>efficient delivery</u> of diosmin to the bloodstream, enabling enhanced *penetration* of the delicate inner lining of the veins.

As with so many "age-related" conditions, inflammation³ is the chief culprit behind the presence of unsightly veins. <u>Inflammatory responses</u> are precipitated by the interaction between white blood cells and the endothelial lining.

Life Extension's European Leg Solution featuring Certified Diosmin 95 offers effective protection by disrupting this inflammatory response.

THE PREFERRED TREATMENT AMONG EUROPEAN WOMEN FOR BEAUTIFUL LEGS IS HERE

Life Extension's European Leg Solution featuring Certified Diosmin 95 provides the same pharmaceutical grade extract used by millions throughout Europe. The retail price for a bottle containing 30 600 mg vegetarian tablets is \$20. If a member buys four bottles, the cost is only \$13.50 per bottle.

Contains corn.

Caution

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

Six Ways Life Extension's European Leg Solution featuring Certified Diosmin 95 Works for You

- Maintains healthy blood flow through your capillaries—the most fragile of your blood vessels.
- Maintains tone and elasticity of your veins—the key to sustained vascular health.
- **3.** Eases the effects of circulating cytokines that promote inflammation.
- **4.** Safeguards collagen and elastin against oxidative damage.
- 5. Enjoys an outstanding safety record.
- Produces results in just 1–2 weeks, with a single 600 mg tablet taken each morning.²

*Product not for sale outside the United States.



iteExtension

UROPEAN LEG SOLUTION

To order European Leg Solution featuring Certified Diosmin 95, call 1-800-544-4440 or visit www.LifeExtension.com

References: 1. http://www.womenshealth.gov/faq/varicose-spider-veins.cfm. 2. Angiology. 2003 Jul-Aug;54 Suppl 1:533-44.
3. Eur J Vasc Endovasc Surg 2004;28:484-93.

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.









Meta-Analysis Associates Increased Sov Intake with Lower Lung Cancer Risk

The results of a meta-analysis published in a recent issue of the American Journal of Clinical Nutrition add evidence to preliminary findings concerning a protective effect for sov against the development of lung cancer.*

> Yong-Bing Xiang of Shanghai Jiaotong University School of

Medicine and colleagues selected eight case-control and three prospective cohort studies for their review, which included 8,436 cases of lung cancer. The analysis uncovered a 23% reduction in lung cancer risk in association with high versus low soy consumption. When the

analysis was limited to five studies of high quality, a 30% reduction was revealed. In analyses of specific groups, significant protective effects were observed for women, people who have never smoked, and Asian populations. For studies that documented intake of soy isoflavones, an approximate 27% reduction in lung cancer risk was associated with high intake.

Editor's Note: While unfermented soy foods were associated with a protective effect, fermented foods such as miso were not.

—D. Dve

* Am J Clin Nutr. 2011 Dec;94(6):1575-83.

Coffee Drinking Linked with Lower Risk of Endometrial Cancer

A report published in Cancer Epidemiology, Biomarkers & Prevention* revealed a connection between coffee drinking and protection against the development of endometrial cancer.

The Harvard team analyzed data from 67,470 participants in the Nurses' Health Study who were aged 34 to 59 in 1980. Dietary questionnaires completed at seven time points between 1980 and 2002 provided information on the type and frequency of coffee consumption. Biennial questionnaires ascertained endometrial cancer diagnoses during the preceding two years. Six hundred seventy-two endometrial cancer cases were documented over the 26-year follow-up period.

A declining risk of the disease was observed in association with increasing consumption of coffee. Following adjusted analysis of the data, a 25% lower risk of endometrial cancer remained in association with the intake of four

or more cups of coffee per day in comparison with women who consumed less than one cup.

Editor's Note: Youjin Je and colleagues note that the chlorogenic acid contained in coffee has strong antioxidant properties that help prevent oxidative DNA damage and improve insulin resistance.

—D. Dve

Cancer Epidemiol Biomark Prev. 2011 Nov 22.





Higher Vitamin D Levels Associated with Lower Risk of Deadly Cancer

In an article in Cancer Epidemiology, Biomarkers & Prevention, Brian M. Wolpin and his colleagues report an association between higher circulating levels of vitamin D and a lower risk of pancreatic cancer among participants in five large prospective studies.*

The study included 451 subjects diagnosed with pancreatic cancer matched with two to three cancer-free controls, selected from participants in the Health Professionals Follow-Up Study, the Nurses' Health Study, the Physicians' Health Study, the Women's Health Initiative-Observational Study, and the Women's Health Study. Follow-up periods ranged from 14.1 to 25.3 years. Plasma samples collected upon enrollment were analyzed for 25-hydroxyvitamin D.

A decreasing risk of pancreatic cancer was associated with rising levels of vitamin D. When participants whose vitamin D level was among the top one-fifth of subjects were compared with those in the lowest fifth, a 33% reduction in pancreatic cancer risk was observed.

Editor's Note: In contrast with findings suggested by an earlier study, no increased risk was observed among men and women whose vitamin D levels were 40 ng/mL or

-D. Dve

Cancer Epidemiol Biomark Prev. 2011

Small Increase in Daily Omega-3 Results in Large Reduction in Arrhythmia-Related Events and Fatal Heart Attack Risk in Diabetic Patients

An analysis of a clinical trial published in *Diabetes Care* reveals a reduction in the risk of ventricular arrhythmia-related events and fatal myocardial infarction among diabetics who received low doses of the omega-3 fatty acids EPA, DHA, and ALA.*

Participants were randomized to receive margarine that provided 223 mg EPA and 149 mg DHA per day, 1.9 grams ALA per day, both EPA/DHA and ALA, or no additional omega-3 fatty acids for 40 months. The subjects were followed for clinical events, including fatal coronary heart disease (defined as mortality from heart attack), and fatal and nonfatal ventricular arrhythmia-related events.

An 84% lower risk of ventricular arrhythmia-related events and a 72% lower risk of combined ventricular arrhythmia-related events and fatal coronary events were observed in participants who received both EPA/DHA and ALA compared to those who consumed unenhanced margarine.

Editor's Note: The subjects included men and women with a history of heart attack within the decade prior to enrollment in the Alpha Omega Trial, which sought to determine the effects of EPA, DHA, and ALA on fatal coronary heart disease and ventriculararrhythmia related events. While a benefit for omega-3 was not confirmed in this population, the current analysis sought to determine the effects in a subgroup of 1,014 diabetic patients, aged 60 to 80 years.

—D. Dve

* Diabetes Care. 2011 Dec; 34(12):2515-20.

High Antioxidant Diet Associated with Fewer Strokes

Researchers from Sweden report that consuming a diet that is rich in antioxidants is associated with a lower risk of stroke in women.*

The team evaluated data from 5,680 women with a history of heart disease and 31,035 women with no history of the disease. Questionnaire responses were analyzed for total antioxidant capacity (TAC), a measure of the free radical-reducing capacity of all dietary antioxidants. Disease-free subjects were followed for 11 years and those with a disease history for 9.6 years.

For women with no history of disease whose diets were rated among the top fifth of participants in TAC, there was a 17% lower risk of stroke in comparison with those whose TAC was among the lowest fifth. Although having a TAC level that was among the highest fourth of those with a history of the disease was not associated with a significant reduction in the risk of total stroke, women in this group experienced 46% lower risk of hemorrhagic stroke.

Editor's Note: Fruit, vegetables, whole grains, and tea were strong contributors to TAC levels.

-D. Dye

Stroke. 2011 Dec.

Reduced Childhood Vitamin D Levels Predict **Diabetes**

In the Journal of Clinical Endocrinology & Metabolism, Micah Olson, MD, and colleagues report that children suffering from obesity and insulin resistance (both associated with diabetes) are more likely to have reduced serum levels of vitamin D, in comparison with non-overweight children.*

The current study evaluated serum 25-hydroxyvitamin D levels, fasting glucose and insulin levels, insulin resistance, and other factors in 411 obese and 87 nonoverweight children between the ages of six and 16 residing in North Texas. While 68% of non-overweight participants had insufficient vitamin D levels and 22% had deficient levels, among obese children, the incidence of insufficiency and deficiency rose to 92% and 50%. A significant relationship was observed between increased insulin resistance and lower vitamin D levels in the obese group.

"Although our study cannot prove causation, it does suggest that low vitamin D levels may play a role in the development of type 2 diabetes," Dr. Olson stated.

Editor's Note: In their discussion of the findings, the authors note that, "The difference in mean 25-hydroxyvitamin D levels between obese and non-overweight subjects was 18.5 nmol/L. Obese children would need to consume an extra 600 to 1,200 IU (the equivalent of six to twelve 8-ounce cups of milk) of vitamin D daily to make up the difference in mean 25-hydroxyvitamin D levels seen in our study. Thus, poor dietary habits alone cannot explain the low 25-hydroxyvitamin D levels seen in obese children.

—D. Dye

* J Clin Endocrinol Metab. 2011 Nov 9.

Seaweed Fiber Improves Weight Loss in Overweight Men and Women

A doctoral thesis by Morten Georg Jensen of the University of Copenhagen in Denmark concludes that alginate, a viscous fiber derived from brown seaweed, can improve weight loss when regularly consumed by overweight adults.*

"Over a three-year period, we have studied the effect of taking different alginate doses." Jensen reports. "We are able to demonstrate that the healthy subjects who took alginates felt less hungry and ate less than the subjects not drinking fiber drinks with alginates."

The thesis describes a twelve week study in which 96 overweight men and women received a drink that contained alginate or a placebo daily

in combination with a reduced-calorie diet. Participants who received the seaweed fiber lost nearly 4 pounds more on average than those who received the placebo, which was primarily due to a decrease in body fat percentage.

Editor's Note: Dr. Jensen commented that. "A probable explanation of the weight loss is that the alginates form a gel in the stomach which strengthens the gastrointestinal satiety signals to the brain because the gel takes up space in the stomach. The overweight subjects thus ate less than usual."

-D. Dye

* Jensen MG. University of Copenhagen.



Soy Offers Hope for Treatment-Resistant **Prostate Cancer**

The results of a pilot study published in the Southern Medical Journal suggest a benefit for soy in men whose prostate cancer failed to respond to radiation or surgery.*

Monika Joshi, MD, and her colleagues at Pennsylvania State University enrolled 10 men with treatment-resistant prostate cancer that had not metastasized, and assigned them to three servings of soy per day for two years, during which PSA levels were monitored. After 24 months, half of the men showed a response to soy with temporary or permanently declining PSA levels or stable PSA levels. The researchers remark that soy may reduce PSA via a reduction in the expression of the androgen receptor and other mechanisms.

> Editor's Note: The success of prostate cancer therapy is evaluated by measuring a protein known as serum prostate-specific antigen (PSA). A rise in PSA following radiation or surgery for prostate cancer indicates treatment failure. An option for these patients is androgen deprivation therapy, which reduces testosterone (a hormone that may increase the growth of prostate cancer); however, the treatment has significant side effects and is not effective for all

> > -D. Dve

Southern Med J. 2011 Nov;104(11):736-740.

Vitamin B12 and Folic Acid Improve Memory in Two-Year Trial

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

The current study analyzed data from a trial of 900 participants with psychological distress who received 400 micrograms folic acid plus 100 micrograms vitamin B12, or a placebo for two years. The original trial was designed to analyze the effect of the supplements and other factors on depressive symptoms. 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.

Editor's Note: Plasma homocysteine, an amino acid that, when elevated, is associated with a greater risk of cardiovascular events, increased by an average of 22.45% among those who received the placebo and by 8.33% among those who received the two B vitamins. Having a high homocysteine level at the beginning of the study was associated with reduced cognitive performance at 24 months, as was higher depression scores.

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

New Role for Vitamin E Uncovered

Reporting in Nature Communications, researchers from Georgia Health Sciences University unveil new findings concerning the ability of alphatocopherol (vitamin E) to maintain and repair the cell membrane: a permeable barrier surrounding the cell that separates its contents from its environment while allowing the transport of necessary substances.*

"Considerable evidence, dating from early studies, shows that muscle health is dependent on an adequate supply of dietary vitamin E," the authors write. "Why vitamin E, at the cellular and molecular level, is crucial to muscle health has remained an unanswered question."

In the current research, Dr. McNeil and colleagues demonstrated that treatment of cultured muscle cells with alpha-tocopherol results in increased

membrane repair to injured cells. Further experimentation confirmed the involvement of vitamin E's antioxidant function in its repair-promoting benefit, as well as its ability to insert itself into the cell membrane due to its lipid solubility.

Nature Commun. 2011 Dec 20.



Meta-Analysis Associates Reduced Vitamin D Levels with Greater Risk of Dying Over Follow-Up Periods of up to 27 Years

The results of a meta-analysis published in the American Journal of Clinical Nutrition reaffirm an increased risk of all-cause mortality over follow-up periods ranging from 1.3 to 24 years in association with reduced serum levels of vitamin D.*

Sara Gandini and her associates selected 14 prospective cohort studies in which serum vitamin D levels were determined

for a total of 62,548 men and women. Over the studies' varying follow-up periods, 5,562 deaths occurred.

> When the studies were analyzed according to highest versus lowest vitamin D levels, a 29% lower average risk of dying was observed for those whose levels were highest. A separate, nonlinear analysis of 11 studies, which utilized approximately 11 ng/mL 25-hydroxyvitamin D as the reference range, found reductions of 14%, 23%, and 31% in association with increases of 5, 10, and 20 ng/mL above this level.

> > —D. Dve

* Am J Clin Nutr. 2012 Jan; 95(1):91-100.

Your Guide to Healthy Skin the Natural Way

By Gary Goldfaden, MD

EVERYTHING YOU NEED TO KNOW ABOUT GETTING HEALTHY SKIN TODAY

While commercial remedies for healthy skin are often falsely touted as "miracle creams" or "Fountains of Youth in a bottle," Dr. Gary Goldfaden's new book takes a practical, natural, whole-health approach to skin care that is both refreshing and easily understandable. Rather than offering harsh solutions like Botox® injections, laser resurfacing, and chemical skin peels as the answer to skin problems, Dr. Goldfaden advises readers to focus on a variety of natural remedies that promote long-term skin health and total body wellness.

A NATURAL SOLUTION

"I firmly believe the right food, nutrients, and supplements, along with avoiding things like smoking and prolonged sun exposure, can make you healthier on the inside and more attractive on the outside," Dr. Goldfaden says, citing his over 40 years of personal experience and research on the topic.

Many *Life Extension®* readers may be familiar with common antioxidants used to promote healthy skin, like vitamins C and E, but few may know about some of the other natural actives that Dr. Goldfaden recommends be included in a healthy skin care regimen. Ingredients like red, green, white, and black tea, as well as pomegranate extract, bearberry, mushrooms, and even grapes can have astounding effects on the skin. This book includes thorough research on why these fruits, herbs, and other compounds should be used in your skin care arsenal today.

ANSWERS FOR ALL SKIN TYPES

Whether you suffer from oily skin, dry skin or sensitive skin, *Your Guide to Healthy Skin the Natural Way* walks you through practical tips that you can use to counter your skin ailment. With layman's definitions of common moisturizing ingredients like hyaluronic acid, cyclomethicone, and squalene, this book will not only explain what many of the ingredients on the label

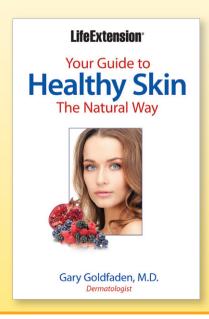
of your moisturizer are, but also how they work and whether or not they're right for your skin type. What may be most valuable, however, is Dr. Goldfaden's introduction to skin-enhancing treatments that you may not have heard about yet, like ceramides. Ceramides are an exciting skin care ingredient that are "eminently suitable for the protection and repair of dry, sensitive skin."

FROM VITAMIN A TO ZINC

Your Guide to Healthy Skin the Natural Way begins with the basics of Understanding Your Skin, the title of chapter one. It gradually moves readers through the steps of an effective skin care regimen, from exfoliation to cleansers, to actives, moisturizers, and sunscreens. The sunscreen chapter is particularly effective, given that it starts out by debunking a few myths, many of which have been perpetuated for far too long by the uninformed mainstream media. A small section titled Confusing Facts About SPF should be a must-read for anyone who enjoys outdoor activities and wants to protect their largest organ, their skin.

To order Your Guide to Healthy Skin the Natural Way, call 1-800-544-4440 or visit www.LifeExtension.com

Item# 33838 Retail price \$26 Member price \$15



The Golden Ratio Lifestyle Diet

Upgrade Your Life & Tap Your Genetic Potential for Ultimate Health, Beauty & Longevity

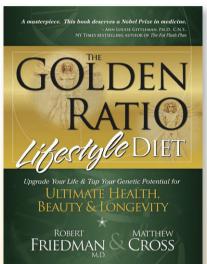
By Robert Friedman, MD, & Matthew Cross

The Golden Ratio Lifestyle Diet takes a unique approach to wellness by incorporating information from a variety of scientific disciplines to explore longevity. Right from the getgo, the introduction lets readers know that this is not your run-of-the-mill lifestyle health plan. The Fibonacci Sequence and Nature's Heartbeat are some of the topics that are so thoroughly researched and explained with real-world examples that the book will quickly win you over.

As a total body improvement book, it begins with the simplest of concepts: breathing. Citing a study from longevity researcher Roy Walford, MD, the book claims that, "People with low VC (vital lung capacity) for their age did not live as long on the average as those with high VC, and as we have learned, predictability is the most important indicator that a biomarker is measuring true 'functional' age."

Vital Capacity (VC) is a measurement of how much air you can breathe out, after maximal inhalation.

This chapter on "Healthy Breath and Circulation" reminds us all how critical a healthy oxygen intake is to further longevity and daily health. The authors state that your vital lung capacity is the number one predictor of longevity. This segues into a fascinating explanation about the Golden Ratio anatomy of our lungs that would seem to be a little far-fetched if not for the abundance of hard data to support it. The following chapter deals with another simple, yet vitally important factor in human health: water and hydration. Each section of



this chapter deals with a different aspect of why hydration is important, but the bottom line is that one of the quickest ways to compromise your health is to be chronically dehydrated.

Chapters titled "Sleep, Rest, and Recovery," and "Posture and Happiness" are certainly valuable, but to *Life Extension*® readers, the insights in the chapters dedicated to nutrition and detoxification will be truly important and exciting. There is a section on

the "Golden Ratio of Evolution: Omega-6/ Omega-3 Balance" that links mass dietary ignorance with a lack of knowledge about these crucial fatty acids. In addition, a section on the "Profound New View of Fullness" will be particularly interesting to those practicing caloric restriction. One of the tenets of this piece is that eating until you are only about 2/3 full (the natural Golden Ratio capacity of your stomach), supports optimal meal portions and healthy digestion. For those looking to limit their calories, this is a practical way to start down that path.

The book finds the Golden Ratio, defined in the text as "...nature's blueprint for virtually all biologic processes...", in nearly every facet of our health and wellness.

To order The Golden Ratio Lifestyle Diet, call 1-800-544-4440 or visit www.LifeExtension.com

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ANTIOXIDANTS

with HepatoProtection Complex

Protects Against the Harmful Effects of ALCOHOL-INDUCED FREE RADICALS

Alcohol-induced free radical assault can wreak havoc throughout the body.

A study in the journal Alcohol demonstrated how antioxidants help to maintain a healthy brain. Another study in the journal Artery stated:

"N-acetyl-cysteine, an analogue of the dietary amino acid cysteine, binds acetaldehyde, thus preventing its damaging effect on physiological proteins."2

Life Extension's Anti-Alcohol Antioxidants with HepatoProtection Complex provides broad-spectrum nutrients designed to suppress free radicals, neutralize toxic alcohol metabolites (such as acetaldehyde),3-6 and support healthy liver function.

In addition to vitamin B1, vitamin C, N-acetyl-L-cysteine, and benfotiamine, this formula's HepatoProtection **Complex** provides potent doses of these novel antioxidants:

- **CHLOROPHYLLIN**, an agent that protects the integrity of DNA.*
- **LEUCOSELECT®** grapeseed extract, **SILYMARIN** (from milk thistle), and RESVERATROL, three hepatoprotective agents that aid in reducing compounds from potentially toxic xenobiotics and protecting cells from oxidative stress.*
- PICROLIV® PICRORHIZA KURROA ROOT EXTRACT contains antioxidant kutkins that scavenge alcohol-induced excess free radicals and stimulate regeneration of cells (hepatocytes).*

A 100-capsule bottle of Anti-Alcohol Antioxidants with HepatoProtection Complex retails for \$26. If a member buys four bottles, the price is reduced to \$17.25 per bottle.

The recommended dose of six capsules of **ANTI-ALCOHOL ANTIOXIDANTS with** HepatoProtection Complex provides:

Vitamin C (as ascorbic acid)	3000 mg
N-acetyl-L-cysteine	1200 mg
Benfotiamine	750 mg
Thiamine (vitamin B1) (as thiamine HCl)	100 mg
Glutathione (reduced)	50 mg
Vitamin E (as d-alpha tocopheryl)	50 IU
Zinc (as zinc oxide)	8 mg
Selenium (as sodium selenate)	25 mcg

HEPATO PROTECTION COMPLEX

Chlorophyllin	20 mg
Leucoselect® grape seed extract	20 mg
Silymarin (from milk thistle) extract	20 mg
Picroliv® extract	15 mg
Barley Grass	15 mg
Trans-resveratrol	5 mg

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- 1. Alcohol. 1999 Oct;19(2):119-30.
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Caution: This product does not prevent, reduce, or modify any of the mental-impairment effects that alcohol induces. Consuming alcohol and taking this product will not allow a person to safely operate a vehicle or any other equipment. Do not drink and attempt to drive.

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NEW STUDY **VALIDATES** LIFE EXTENSION'S EARLY WARNING

Synthetic Alpha Tocopherol Shown to Increase Prostate Cancer Risk

We Predicted This Outcome!

BY WILLIAM FALOON

Longtime members of the Life Extension Foundation® have heard our **warnings** against **synthetic alpha tocopherol** many times.

In 1997, we reported that taking only the alpha tocopherol form of vitamin E displaces critically important gamma tocopherol in the body. By displacing gamma tocopherol, we feared that high doses of alpha tocopherol could increase cancer risks.

In fact, three years after Life Extension's first warning, the *Johns Hopkins School of Public Health* released the results of a huge study (10,456 men). The findings showed that men with the <u>highest gamma tocopherol</u> blood levels had a **fivefold reduction**

in **prostate cancer risk**. This same study showed that selenium and alpha tocopherol also reduced prostate cancer risk, but **only** when **gamma tocopherol** levels were high. Confirmatory studies document higher levels of **gamma tocopherol** to be strongly associated with <u>reduced</u> cancer risks. ²⁻⁵

While both alpha and gamma tocopherol are potent antioxidants, gamma tocopherol has a unique function. Because of its different chemical structure, gamma tocopherol scavenges reactive nitrogen species, which can damage proteins, lipids, and DNA 6-8

Cancer is the end result of damage inflicted upon critical DNA genes that

help regulate cellular growth and maturation. The fact that supplementation with isolated, synthetic alpha tocopherol depletes plasma gamma tocopherol levels means that the researchers who designed a study using only high-dose alpha tocopherol (the SELECT trial) created a biological catastrophe. The result of their ignorance is that men randomized to receive only synthetic alpha tocopherol suffered significant gamma tocopherol depletion and consequently, DNA damage from reactive nitrogen species. The fact that higher prostate cancer rates were observed in the group overloaded with synthetic alpha-tocopherol in the SELECT trial was predictable and expected based upon fundamental facts Life Extension understood as far back as 1997.

This costly **government-funded study** was initiated in the year 2001.

Life Extension was highly critical of this study design because it exposed healthy men to relatively high doses of synthetic alpha tocopherol without any supplemental gamma tocopherol to compensate. The results confirmed Life Extension's worst fears. Compared to placebo, men taking synthetic alpha tocopherol had a 17% greater incidence of prostate cancer. 9 This is a tragedy from the standpoint of the study participants who should not have been given alpha tocopherol by itself. It was also a waste of tax dollars used to fund a study that was designed to fail from the outset.

In another arm of the study where selenium was given in addition to alpha tocopherol, there was not a statistically significant increase in prostate cancer. The study's authors commented on the protective effect of selenium, but never mentioned the damage they inflicted by failing

to include *gamma tocopherol* in their study. **Selenium** boosts antioxidant defenses in the body (such as glutathione peroxidase) that would help compensate for the displacement of *gamma* tocopherol by *alpha* tocopherol.¹⁰

The doctors involved in the design of the study comprise a "who's who" of the conventional cancer establishment. Virtually every major cancer center was involved in the study conception, and it seemed that virtually every pharmaceutical company had made generous payments to the study's overseers. If there was ever a greater financial conflict of interest, we have yet to see it. It was in the economic interests of the drug companies, the cancer centers, and the mainstream doctors to see this study fail, and the harsh comments against dietary supplements by the mainstream doctors reveal a strong *bias* against over-the-counter dietary supplements.

While the study's authors claim that there is not a "biological explanation" from their data to explain the increase in prostate cancer in the alpha tocopherol-only group, *Life Extension*® long ago predicted in writing this study would <u>fail</u>. As we expected, the men in this study that received <u>alpha</u> tocopherol experienced a 45% <u>depletion</u> of vital gamma tocopherol during the initial 5.5-year median study period.¹¹

Myriad reports now point to the urgent need for Americans to obtain sufficient *gamma tocopherol*. 8,12-22 Yet the vast majority of human clinical research focuses only on *alpha tocopherol*—as if it were the only form of vitamin E people require. This article explains the mechanisms involved in development of **prostate cancer** and why no single supplement can be counted on alone to prevent it.>>

Based on reports showing antioxidants reduce incidence of prostate cancer, the **federal government** spent over \$114 million to see if synthetic alpha tocopherol and/or a single-sourced selenium supplement would prevent prostate cancer in a large placebocontrolled trial conducted at major cancer centers throughout the United States.¹¹

The long-term follow-up of the SELECT study was published in the Journal of the American Medical Association on October 12, 2011.11 Long before this study's findings were released. Life Extension® predicted that it would fail and warned that men taking high doses of alpha tocopherol without also taking gamma tocopherol faced increased disease risk.

In the initial results of the SELECT study over a median 5.5-year period, men supplemented with synthetic alpha tocopherol experienced significant gamma tocopherol depletion of 45%. Men supplemented with alpha tocopherol plus selenium experienced a 48% depletion of gamma tocopherol. These gamma tocopherol depletions occurred by 6 months and were sustained during the course of a median trial period of 5.5 years.¹¹

It should be noted that serious supplement users choose natural alpha tocopherol because it has been shown to exert superior biological effects in the body.^{23,24} The <u>synthetic</u> form of alpha tocopherol is most often used in brand-name multivitamins made by pharmaceutical companies that are widely advertised on national television. Organizations like Life **Extension** have resisted the cheap price of synthetic vitamin E and use the more expensive <u>natural</u> form of alpha tocopherol in nutrient formulations.

It should also be noted that the only form of selenium used in this study was L-selenomethionine (200 mcg). Yet scientific studies dating back to the **1970s** show that other forms of selenium might provide greater protection against cancer. That's why most Life Extension members obtain their selenium from more than one source that includes Se-methyl L-selenocysteine and/or, other anti-cancer forms of selenium.25-30

Life Extension has conducted a thorough review of the SELECT study that is now being used as a basis to attack dietary supplements. The more of this article vou read, the more vou will understand why the SELECT study was **designed to fail** from the outset.

Initial SELECT Report Showed No Risk or Benefit

When data was first reported from the SELECT trial on December 9, 2008, it found no reduction in prostate cancer incidence in men taking alpha tocopherol or selenium over a median period of 5.5 years.¹¹

This was not surprising since we have known for the past 14 years that when alpha tocopherol is taken by itself, it displaces critically important gamma tocopherol in our cells.³¹⁻³⁴ An abundance of evidence points to the gamma tocopherol form of vitamin E as the most protective against prostate cancer.^{2,35-37}

By supplementing aging men with only alpha tocopherol, doctors increased these men's prostate cancer risk by depriving prostate cells of critical gamma tocopherol. This is only a tiny part of the real story behind this flawed study.



The American Medical Association used the initial finding of no benefit to discredit vitamin E and selenium supplements. An editorial by the American Medical Association concluded by advising:

"... physicians should not recommend selenium or vitamin E—or any other antioxidant supplements—to their patients for preventing prostate cancer." 38

In January 2008, as part of our article titled "Merv Griffin's Tragic Death from Prostate Cancer,"³⁹ we predicted that the SELECT trial would <u>fail</u>. We also stated that this faulty SELECT study would be misused by the medical establishment to discredit by extrapolation, other low-cost efficacious nutrients like vitamin D and fish oil.

How Gamma Tocopherol Protects Against Cancer

Gamma tocopherol exerts **anticancer** effects through a variety of important mechanisms, giving it an especially broad spectrum of action against a host of tumor types. At the very beginning of the cancer development process, gamma tocopherol traps reactive nitrogen species and other free radicals that cause mutations in DNA strands and render cells vulnerable to malignant transformation.⁶⁻⁸ This is a crucial step in the prevention of cancer.

Gamma tocopherol inhibits cancer cell growth in culture through a number of different mechanisms.³⁷ It downregulates control molecules known as cyclins, which traps cancer cells in the midst of their reproduction cycle and prevent them from reproducing and spreading.³⁶ This anticancer effect appears to be based on a mechanism separate from the vitamin's well-known antioxidant powers.

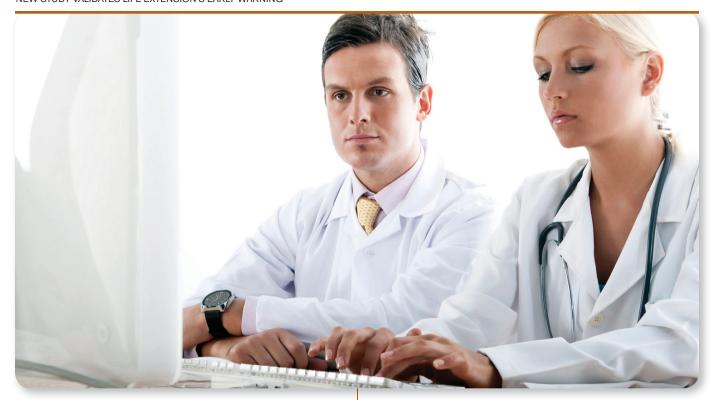
A cell membrane receptor called PPAR-gamma (peroxisome proliferator-activated receptor-gamma) is a promising target for anticancer therapies because it affects genes that control cancer cell growth and death. This is why PPAR-activating drugs are being researched and developed by pharmaceutical companies as anticancer drugs. Gamma tocopherol is more powerful than alpha tocopherol at stimulating PPAR-gamma activity, especially in colon cancer cells. PPAR-gamma stimulation by gamma tocopherol resulted in a complete cessation of cancer cell growth. PPAR-gamma stimulation by gamma tocopherol resulted in a complete cessation

Once cancerous transformation has taken place, there are still biological opportunities to prevent full-blown tumor development. One of these ways is the induction of deliberate cell death through builtin genetic programs, a process called apoptosis. In a variety of cancer tissues, gamma tocopherol has been found to be superior to alpha tocopherol at induc-



New Study Validates Life Extension's Early Warning

- In 1997, Life Extension reported that taking only the alpha tocopherol form of vitamin E displaces gamma tocopherol in the body.
- A 2000 study showed that men with the highest blood levels of gamma tocopherol had a 5-fold reduction in prostate cancer risk. Alpha tocopherol and selenium also reduced prostate risk, but only when gamma tocopherol was high.
- In the SELECT study, synthetic vitamin E
 was linked with an increased risk of prostate
 cancer. Men receiving selenium plus vitamin
 E did not experience increased prostate
 cancer risk.
- Abundant evidence points to gamma tocopherol as the form of vitamin E that is most protective against prostate and other cancers.
- Many factors contribute to the initiation and development of prostate cancer, including dietary factors, estrogen levels, and low vitamin D levels.
- The SELECT study attempted to reduce prostate cancer risk using one or two nutrients; however, dozens of factors are involved in the development of prostate cancer. It is no surprise that this flawed study failed to find a protective effect for vitamin E supplements.
- Life Extension encourages members to pursue a comprehensive program of healthy diet and supplementation in order to protect their prostate health.



ing apoptosis, triggering a number of desirable cell disposal-pathways.^{2,42} In prostate cancer cells, gamma tocopherol induced cell death by blocking synthesis of important cell membrane components.⁴³ Gamma tocopherol also reduces the development of new blood vessel formation in tumors, depriving them of the nutrients they need to thrive.44

To date, all of these mechanisms have been shown to inhibit cancers of the colon, prostate, breast, and lung in animal models, with many more under active investigation.45

A study found that women who consumed most vitamin E from food sources had a 60% reduction in the risk of breast cancer, compared to women with the lowest consumption. The form of vitamin E that strongly predominates in food sources is gamma tocopherol.46

In the **December 2000** issue of the *Journal of the National Cancer Institute*, researchers at the *Johns* Hopkins School of Public Health published results of a huge study of 10,456 men showing that those with the highest gamma tocopherol blood levels had a **fivefold reduction** in prostate cancer risk. This same study showed that selenium and alpha tocopherol also reduced prostate cancer risk, but only when gamma tocopherol levels were high.1

These findings should have been glaringly apparent to those involved in the SELECT human clinical trial that began one year later (in 2001), yet the SELECT study design called for men to be given a high dose of synthetic alpha tocopherol that resulted in depletion

of vital **gamma tocopherol** by **45%** during the initial 5.5-year median trial period! This is one reason why we believe the SELECT study was "designed to fail."

We know that free radical-induced damage to DNA genes can cause cancer, but there are other risk factors beyond oxidative stress to blame for most prostate tumors.

Prostate Cancer Is Initiated Early in Life

While prostate cancer is not usually diagnosed until men reach older ages, it can be initiated 15-25 vears prior to clinical manifestation. In fact, there is convincing evidence that the initiating DNA damage inflicted by estrogen to prostate cells can occur before a man is even born.47

Studies show that as early as the second and third trimester of life, exposure to elevated estrogens in the womb can initiate prostate cancer that may not manifest for 80 years. 48-53 A man's lifetime exposure to higher-than-normal estrogen may be a contributing factor to prostate cancer development. There is no evidence that antioxidants like alpha tocopherol and selenium would protect against this kind of prostate cancer induced by prolonged excess estrogen exposure.

Please don't feel helpless about this, as it requires more than mere **initiation** for cancer to fully develop. Dietary and other lifestyle factors have an enormous impact on whether men will develop prostate cancer, even if they are genetically predisposed.

The Cause of All Cancers

Cancer can be defined in one sentence as follows:

"Cancer is the accumulation of mutations in genes that regulate cellular proliferation."54

All cancers are caused by gene mutations. Every time a cell divides, there are slight mutations to one's genes. Oxidative stress accelerates gene mutation, but is by no means the primary factor. While selenium and vitamin E reduce some types of oxidative stress, the aged men in the SELECT study had already sustained considerable genetic mutations that are not reversible by taking antioxidants.

Fortunately, there are nutrients that have been shown to favorably reverse the gene alterations involved in cancer initiation and progression. One promising nutrient is vitamin D, which has been shown to slash prostate cancer risk in some studies.⁵⁵ Serum levels of vitamin D were not assessed in the SELECT study, so it was not possible to know which men had protective levels of vitamin D and those who had insufficient or even deficient levels. If men in the placebo group had even slightly higher vitamin D status, they should have been less likely to contract prostate cancer.

What researchers fail to comprehend is that giving aged men a single antioxidant like alpha tocopherol is not going to reverse seven decades of genetic damage to prostate DNA. Fortunately, we know of other mechanisms that fuel prostate cancer progression that can be mitigated.



Eating Your Way to Prostate Cancer

Cancer cells lurk in the prostate glands of most aging men, yet only one in six men are ever diagnosed with prostate cancer. If one looks at what is required for a single cancer cell to develop into a detectable tumor, it becomes obvious that natural barriers exist to protect people against full-blown cancer.^{2,43-46}

Unfortunately, the dietary choices of most men living in the modern Western world circumvent the body's natural **protective barriers**. The end result is that most men unwittingly provide **biological fuel** for existing prostate cancer cells to propagate and metastasize.

Fortunately, an understanding of the biological roles of diet and specific nutrients can enable aging men to achieve a considerable amount of control over whether isolated cancer cells in their prostate gland will ever show up as a clinically diagnosed disease.

The impact of the food we ingest on cell growth and death is so pronounced that in some ways it can be identical to the effects displayed by some anticancer drugs. As it relates to the SELECT study on alpha tocopherol and/or selenium, the study participants' diet was not taken into consideration. This fact alone could have rendered the findings highly suspect. Read on to see what we mean.

The First Line of Defense: **Omega-3 Fatty Acids**

Diets high in omega-6 fats and saturated fats are associated with greater prostate cancer risk, whereas increased intake of **omega-3 fats** from fish has been shown to reduce risk. Based on consistent epidemiological findings across a wide range of human populations, scientists have sought to understand why eating the wrong kinds of fat (saturated and omega-6 fats) provokes a stimulatory effect on prostate cancer.⁵⁶⁻⁵⁸

To ascertain what happens after we eat bad fats, all one has to do is look at the metabolic breakdown pathways that these fats follow in the body, as shown in the chart on the next page (Figure 1). For example, let us assume that for dinner, you eat a steak (a source of saturated fat) and a salad, along with a typical salad dressing of soybean and/or safflower oils (sources of omega-6 fats).

As can be seen in the flow chart (Figure 1), saturated and omega-6 fats convert to arachidonic acid in the body. The meat itself contains arachidonic acid. One way that the body rids itself of excess arachidonic acid is provoking a dangerous metabolizing pathway through 5-lipoxygenase (5-LOX). Studies show that 5-LOX products directly stimulate prostate cancer cell proliferation via several well-defined

How Common Foods Convert to Deadly Compounds in the Body



Consumption of arachidonic acid-rich foods such as egg yolk, red meat, poultry, and organ meat.



Consumption of arachidonic acid precursors/stimulating foods such as omega-6 fats and high-glycemic carbohydrates.

EXCESS ARACHIDONIC ACID IN THE BODY

Increased production of **5-lipoxygenase** (5-LOX)
(facilitates the propagation, infiltration,
and metastasis of cancer cells)

Increased production of 5-hydroxyeicosatetraenoic acid (5-HETE)

(interferes with programmed cancer cell death [apoptosis])

Excess accumulation of
leukotriene B4
(proinflammatory compound
that attacks the joints,
arterial wall, and other tissues)

Figure 1. Flow chart showing how the body metabolizes common foods via the 5-lipoxygenase (5-LOX) pathway.

mechanisms. 59-64 Arachidonic acid is metabolized by 5-LOX to 5-hydroxyeicosatetraenoic acid (5-HETE), a potent survival factor that prostate cancer cells use to escape destruction. 65,66 Figure 1 clearly demonstrates how consuming a diet of foods rich in arachidonic acid directly provokes the production of dangerous 5-LOX products, which can promote the progression of prostate cancer. In addition to 5-HETE, 5-LOX also metabolizes arachidonic acid into leukotriene B4, a potent pro-inflammatory agent that causes destructive reactions throughout the body and inflicts severe damage to the arterial wall.67-73

One reason that fish oil supplements have become so popular is that their beneficial EPA/DHA fatty acids can help reduce the production of arachidonic acid-derived eicosanoids in the body. 74-79 As shown in Figure 1, if arachidonic acid levels are reduced, there would be a corresponding suppression of the 5-LOX products 5-HETE and leukotriene B4.

Once one understands the lethal metabolic cascades that occurs in response to poor dietary choices. it is easy to see why people who excessively consume foods rich in arachidonic acid, and/or those who do not reduce the production of excessive arachidonic acid metabolites, are setting themselves up for prostate cancer and a host of inflammatory diseases (including atherosclerosis). A chart appearing later in this article clearly shows the destructive cascade initiated by excess arachidonic acid.

Men in the SELECT study who took alpha tocopherol-selenium supplements, but consumed foods

Daily Use of Aspirin May Decrease Prostate Risks

Researchers studied 2.447 men over 12 years. examining them every other year. After adjusting for age, diabetes, hypertension, and other factors, they found that men who took a daily aspirin or another NSAID (like ibuprofen) reduced their risk of moderate or severe urinary symptoms by 27% and lowered their risk of an enlarged prostate by 49%. Even more intriguing was the finding that men who consumed aspirin or another non-steroidal anti-inflammatory (NSAID) were 48% less likely to have an elevated level of prostate-specific antigen (PSA), the protein measured in the blood that helps detect prostate cancer.80

Aspirin inhibits the cyclooxygenase (COX-1 and COX-2) enzymes, which are also involved in the arachidonic acid inflammatory pathway.81,82 Like 5-lipoxygenase, COX-2 is known to promote the proliferation of prostate cancer cells.83

In the SELECT study used to discredit alpha tocopherol-selenium, the use of aspirin or ibuprofen by the placebo group may have reduced the prostate cancer risk more than what could be expected in those receiving alpha tocopherol and selenium who may not have been taking as much aspirin or other NSAIDs.



Multiple Dangers of Excess Arachidonic Acid

In response to arachidonic acid overload, the body increases its production of enzymes like 5-lipoxygenase (5-LOX) to degrade arachidonic acid. Not only do 5-LOX products directly stimulate cancer cell propagation, 68,104,105 but the breakdown products that 5-LOX produces from arachidonic acid (such as leukotriene B4, 5-HETE, and hydroxylated fatty acids) cause tissue destruction, chronic inflammation, and increased resistance of tumor cells to apoptosis (programmed cell destruction). 106-111

It is important to understand that 5-LOX is not the only dangerous enzyme the body produces to break down arachidonic acid. As can be seen in Figure 2, both cyclooxygenase-1 and cyclooxygenase-2 (COX-1 and COX-2) also participate in the degradation of arachidonic acid.

COX-1 causes the production of thromboxane A2, which can promote abnormal arterial blood clotting (thrombosis), resulting in heart attack and stroke. 112-116 COX-2 is directly involved in cancer cell propagation, 103,117,118 while its breakdown product (prostaglandin E2) promotes chronic inflammation. 111,119,120 Most health-conscious people already inhibit the COX-1 and COX-2 enzymes by taking low-dose aspirin, 114,121-124 curcumin, 92,125-136 green tea, 137, 138 and various flavonoids such as resveratrol. 139,140

A more integrative approach to this problem, however, would be to also reduce levels of arachidonic acid, which is the precursor of 5-HETE and leukotriene.

high in arachidonic acid and not enough omega-3s, would be more likely to develop prostate cancer. The researchers who designed this study should have known to correct for this critical confounding factor, i.e. dietary patterns.

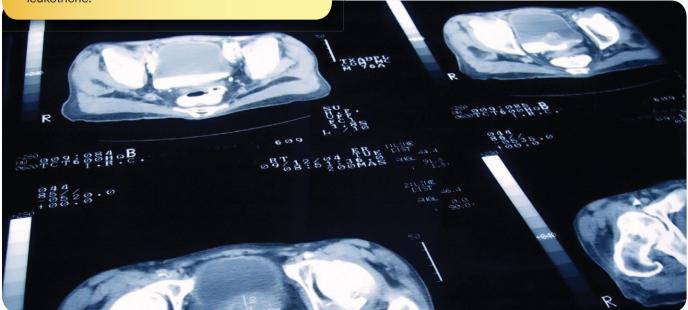
5-LOX Is Overexpressed in Prostate Cancer

Based on studies showing that consumption of foods rich in arachidonic acid is greatest in regions with high incidences of prostate cancer, 59,60,64,84 scientists sought to determine how much of the 5-LOX enzyme is present in malignant versus benign prostate tissues.85

Using biopsy samples taken from living human patients, the researchers found that 5-LOX mRNA levels were an astounding sixfold greater in malignant prostate tissues compared with benign tissues. This study also found that levels of 5-HETE were **2.2-fold greater** in malignant versus benign prostate tissues.85 The scientists concluded this study by stating that selective inhibitors of 5-LOX may be useful in the prevention or treatment of patients with prostate cancer.

5-LOX Promotes Tumor Growth Factors

As the evidence mounts that ingesting "bad fats" increases prostate cancer risk, scientists are evaluating the effects of 5-LOX on various growth factors involved in the progression, angiogenesis, and metastasis of cancer cells.



One study found that 5-LOX activity is required to stimulate prostate cancer cell growth by epidermal growth factor (EGF) and other cancer cell-proliferating factors produced in the body. When 5-LOX levels were reduced, the cancer cell-stimulatory effect of EGF and other growth factors was diminished.⁵⁹

In a mouse study, an increase in 5-LOX resulted in a corresponding increase in vascular endothelial growth factor, a key growth factor that tumor cells use to stimulate new blood vessel formation (angiogenesis) into the tumor. 5-lipoxygenase inhibitors were shown to reduce tumor angiogenesis along with a host of other growth factors.86 In both androgen-dependent and androgen-independent human prostate cancer cell lines, the inhibition of 5-LOX has consistently been shown to induce rapid and massive apoptosis (cancer cell destruction).60,84,87,88

Suppressing **Arachidonic Acid Byproducts**

Health-conscious people take nutrients like **fish oil**, curcumin, and lycopene that help to lower 5-LOX activity in the body.84,89-96

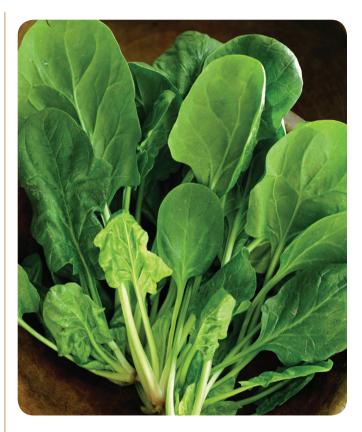
A rat study showed that *gamma tocopherol*, but not alpha tocopherol, exhibited potent reduction of PGE2 and leukotriene B4, powerful pro-inflammatory end products of the COX-2 and 5-LOX pathways, respectively.97 A review of several studies indicates that combinations of alpha and gamma tocopherol optimally reduce end products (such as PGE2 and leukotriene B4) of arachidonic acid breakdown in the body. 18,98,99

Extracts from the boswellia plant selectively inhibit 5-lipoxygenase (5-LOX). 100,101 A novel boswellia extract has been developed that is 52% more bioavailable compared to standard boswellia extracts¹⁰² thus providing a greater opportunity to suppress deadly 5-LOX and other cancer-promoting byproducts of arachidonic acid.

As humans age, overexpression of the enzymes 5-LOX and COX-2 typically occurs. For maturing males, excess levels of these pro-inflammatory enzymes may contribute to the epidemic of prostate cancer observed after the age of 60.103

Based on the cumulative knowledge that 5-LOX, COX-2, and their breakdown products can promote the invasion and metastasis of prostate cancer cells, it would appear advantageous to take aggressive steps to suppress these lethal enzymes.

For the unfortunate men who received only alpha tocopherol in the SELECT study, the suppression of gamma tocopherol that occurred in their bodies presumably exposed them to higher levels of cancer-promoting byproducts of arachidonic acid. Interestingly,



selenium has shown 5-LOX-inhibiting effects, which may partially explain why men receiving selenium and alpha tocopherol-alone did not show a statistically significant increase in prostate cancer.

Soy, Lignans, and Cruciferous Vegetables

Men who regularly consume certain plant foods have sharply lower rates of prostate cancer. Studies show that cauliflower, broccoli, flax lignans, and soy isoflavones¹⁴¹⁻¹⁵⁰ protect against a host of diseases, including prostate cancer. If the men in the SELECT placebo group ate an even slightly healthier diet, then they would be expected to enjoy a lower rate of prostate cancer compared with men who took the alpha tocopherol-selenium supplements but ate fewer cancer-preventing plant foods.

Low Testosterone Increases Prostate Cancer Risk

In a book authored by Harvard University experts titled *Testosterone for Life*, detailed findings are presented that dispel a misleading notion about testosterone causing prostate cancer.¹⁵¹ These researchers meticulously document their observations that men with <u>low</u> levels of testosterone have higher prostate cancer risks.

This finding provides another confounding factor that skews the results of the SELECT trial that only used alpha tocopherol and/or selenium. If men receiving the supplements had lower testosterone levels, they would conceivably have a higher rate of prostate cancer.

Too Many Factors Involved in Prostate Cancer Causation

The SELECT study was designed based on prior studies showing sharply lower risks of prostate cancer in men who consumed vitamin E and selenium. 152-158 It was also based on the premise that protecting genes against oxidative stress would reduce prostate cancer incidence in aged men.

We now know of dozens of factors involved in the development of full-blown prostate cancer. One could not expect that taking just one or two nutrients would result in less prostate cancer developing in these older study subjects. There are too many other causes that should have been factored in when the SELECT study was originally designed.

It is encouraging that a plethora of new research findings have identified definitive ways for aging men to drastically slash their risk of developing prostate and other cancers.

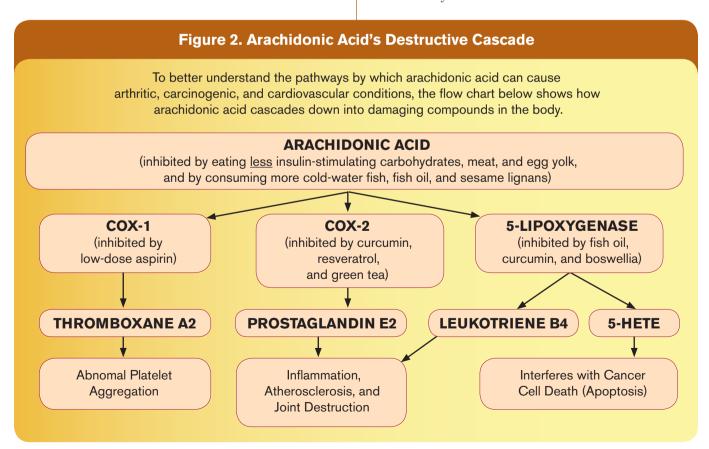
Conclusion

Life Extension long ago warned of *increased* disease risk in those who only took *alpha* tocopherol supplements without also taking *gamma* tocopherol.

Leaving out gamma tocopherol is <u>not</u> the only flaw in the SELECT study. It is rather conspicuous, however, since men supplemented with alpha tocopherol experienced a **45-48**% <u>depletion</u> in gamma tocopherol levels by six months that was sustained during the course of the initial 5.5-year median trial period.¹¹

The facts revealed in this rebuttal to the SELECT study identify a fundamental problem confronting researchers who seek to "prove" whether a certain supplement prevents a disease. There are too many "other" factors involved in the development and progression of prostate cancer, including low levels of testosterone, increased levels of estrogen, coexisting diabetes or metabolic syndrome, low vitamin D intake, and increased dietary saturated fats. These confounding factors therefore make it difficult to study just one or two compounds and expect to come up with a valid finding.

To emphasize today's sense of urgency, the aging population will contract prostate cancer at epidemic levels unless aggressive changes are implemented immediately. That's because mutated cells in the



prostate glands of aging males are already on the verge of maturing into full-blown cancer.

This is why we encourage Life Extension members to consume healthy diets and supplements that have been shown to sharply reduce prostate cancer incidence. There is not enough time left in our generation's projected life spans to withstand the kind of scientific design flaws seen in the SELECT study. the medical establishment's bias against supplements, and arbitrary standards set by the pharmaceutical monopoly.

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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DREAMS

Choose the Melatonin

That's Right For You

Healthy sleep is one of the best

ways to feel revitalized and maintain

optimal health. Increasingly, research

has shown the health benefits of a

good night's sleep. Melatonin is one

of the most popular supplements for

Now, pick the right melatonin for your needs with doses ranging from 300 mcg to 10 mg. For optimal results,

melatonin should be taken within

30-60 minutes of going to sleep.

supporting sleep.

Melatonin 300 mcg

100 time-release vegetarian capsules Retail: \$6.25 Member Price: \$4.69

Item # 01087



Melatonin 3 mg

60 capsules
Retail: \$8
Member Price:

Item # 00330 Contains rice.



LifeExtension

MELATONIN

Melatonin 500 mcg

200 vegetarian capsules
Retail: \$18
Member Price:
\$13.50

Item # 01083 Contains rice.



Melatonin 3 mg

60 dissolve-in-mouth lozenges Retail: \$8 Member Price:

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Contains corn.



Melatonin 750 mcg

60 time-release
vegetarian capsules
Retail: \$5.75
Member Price:
\$4.31
Item # 01088



Melatonin 3 mg

60 time-release vegetarian capsules Retail: \$10.50 Member Price: \$7.88

Item # 01086



Melatonin 1 mg

60 capsules
Retail: \$5
Member Price:
\$3.75
Item # 00329

Contains rice.



Natural Sleep® 3 mg

60 time-release vegetarian capsules Retail: \$12.99 Member Price: \$9.74

Item # 01084 Contains corn.



Melatonin 10 mg

60 capsules
Retail: \$28
Member Price:
\$21
Item # 00331

Item # 00331 Contains rice.



Natural Sleep[®] Melatonin 5 mg

60 time-release
vegetarian capsules
Retail: \$18
Member Price:
\$13.50
Item # 01085



Melatonin 300 mcg

100 capsules
Retail: \$5.75
Member Price:
\$4.31

Item # 00547 Contains rice.

Caution: Consult your healthcare provider before taking this product if you are being treated for a medical condition (especially autoimmune or depressive disorders). Use caution if combining with alcohol. This product is not intended for children, pregnant or lactating women, or women trying to become pregnant. Do not attempt to drive or operate heavy machinery after taking this product.

ChromeMate®, a patented, biologically active oxygen-coordinated niacin-bound chromium complex, is a registered trademark of Interhealth Nutritionals Inc.

Contains corn.

To order any of these premium-grade

Melatonin supplements, call 1-800-544-4440

or visit

www.LifeExtension.com

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 multinutrient formulas (and children), this potency of vitamin D may be suitable.

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 <u>and</u> iodine, especially those seeking to reduce their salt intake. Combining **5,000** IU of **vitamin D3** and **1,000** mcg of **iodine** into <u>one</u> capsule makes taking these two nutrients economical and convenient.

Item # 01372

Please refer to website for allergen information.

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-



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 multinutrient 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

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.

ARE YOU TAKING THE OPTIMAL FORMS OF

VITAMIN E?

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

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

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

SESAME LIGNANS: THE NATURAL VITAMIN E BOOSTER

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

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

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

WORLD'S MOST COMPREHENSIVE VITAMIN E FORMULA!

The **Gamma E Tocopherol** formula provides potent doses of critically important gamma vitamin **E** along with **sesame lignans** to augment its antioxidant effects.

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



Gamma tocopherol	215.4-244.12 mg
Delta tocopherol	89.75-125.65 mg
Alpha tocopherol	30.51-35.9 mg
Beta tocopherol	0-7.18 mg
Sesame seed	20 mg
(Sesamum indicum) lignan extract	t



Item # 00759

Contains soybeans and sesame.

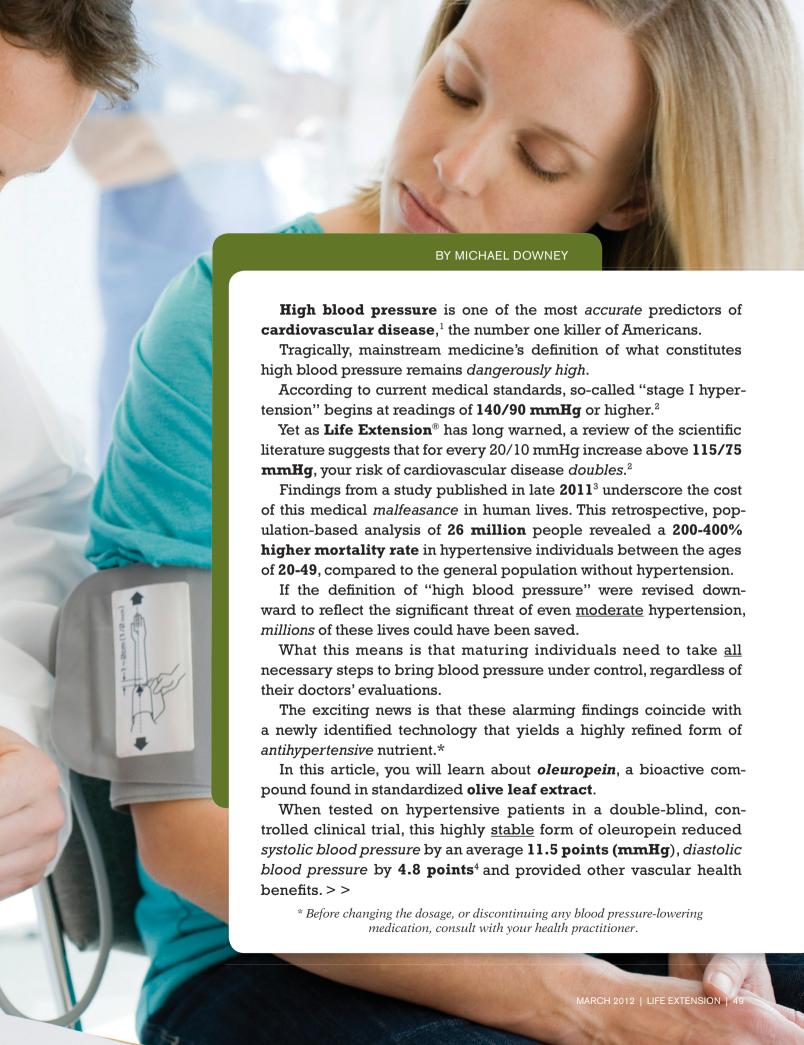
Antioxidant Vitamins & Cancer. Some scientific evidence suggests that consumption of antioxidant vitamins may reduce the risk of certain forms of cancer. However, the FDA does not endorse this claim because this evidence is limited and not conclusive.

Note: Those taking Super Booster do not usually require additional gamma tocopherol. References

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





Targeting Hypertension's Primary Cause

The olive fruit (*Olea europaea*) is a core constituent of the Mediterranean diet. Its broad-spectrum health benefits have been well documented in the clinical literature.

Olive fruit's array of beneficial compounds includes hydroxytyrosol, oleacein, ursolic, and oleanic acids.

However, it is *oleuropein*, found in high concentrations in the leaf of the olive tree, that is largely responsible for the beneficial effect on high blood pressure. 5-9 Why?

A multitude of causative factors underlies uncontrolled blood pressure. Many cases of hypertension involve increased arterial stiffness. 10 This stiffness, or lack of elasticity, usually begins in the arterioles—tiny peripheral arteries most distant from the heart—and eventually spreads to larger arteries.

Oleuropein has been shown to specifically target arterial resistance and stiffness, improving endothelial function and bringing blood pressure under control. It accomplishes this in part by modulating calcium channel flow—with an excellent tolerability profile.4,11-14

While tolerability has been excellent with oleuropein, the list of side effects associated with certain blood pressure medications is long. This list includes swollen ankles and feet (edema), 15 gastrointestinal bleeding,16 kidney impairment,17,18 excess potassium in the blood, 19,20 negative interactions with other drugs, 18 and, paradoxically, increased risk of heart attack.21

Modern medical protocols prescribe multiple drugs *simultaneously* to control blood pressure.²² While drug combinations may reduce blood pressure, often with limited or uneven control,23 a growing body of scientific evidence suggests that the greater the number of drugs, the greater the risk of drug-to-drug interaction and adverse events.

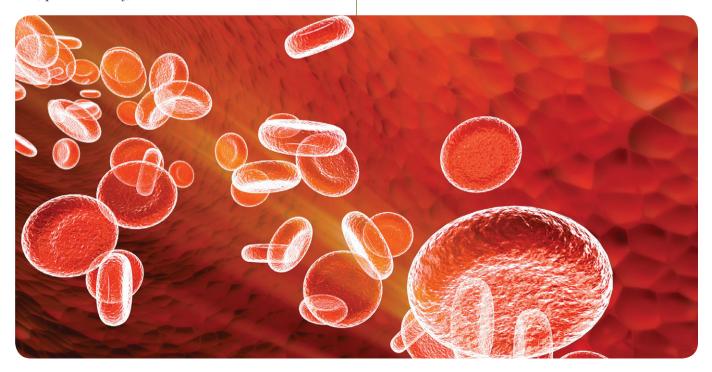
Despite a good safety profile, there is an issue with many commercial extracts of **oleuropein**: they degrade unless processed using precise handling techniques.²⁴

In a significant advance, a gentle-processing technique has been developed that inhibits oleuropein breakdown, resulting in an olive leaf extract that delivers a standardized, high concentration of bioavailable oleuropein.

Antihypertensive Effects in Animal Models

In a lab study, macrophage cells drawn from animals were treated with oleuropein from olive leaf extract. The cells generated a greater supply of *nitric* oxide, a natural blood vessel dilator, suggesting that olive leaf extract may lower blood pressure in living beings.25

Having identified this property, scientists applied the extract to rabbit hearts. The higher the concentration, the more the extract decreased the systolic left ventricular pressure and heart rate, and increased coronary flow. The *L-type calcium channel flow* was also suppressed, 17 an effect that can help to lessen artery wall muscle contraction.



The next step was to determine if this plant extract would exhibit the same antihypertensive effects in animals.

First, an experimental agent that induces hypertension by inhibiting nitric oxide was given to rats for eight weeks. At the same time, scientists administered the olive leaf formulation. In a dose-dependent fashion, the extract provided a prophylactic effect, offsetting the effects of the hypertensive agent—and preventing high blood pressure.

Next, the same team gave only the hypertensive agent to rats over a six-week period, causing high blood pressure. Then, for a second six-week period, they administered both the hypertensive agent and olive leaf extract to the rats. The extract completely eliminated the induced hypertension. The scientists suggested the extract reversed the remodeling of vascular and cardiac tissue that is known to occur with high blood pressure.26

The real challenge, however, was whether this same formulation would be effective in humans who have high blood pressure.

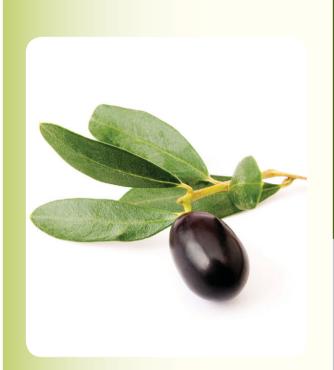
Efficacy in Humans

To evaluate its efficacy in humans in a controlled open-label trial, scientists gave the olive leaf formulation to 20 pairs of identical twins, aged 18-60, all of whom had borderline hypertension. One set of twins took 500 mg a day over eight weeks, while the matched twins took 1,000 mg, with a control group making lifestyle changes only.

Mean blood pressure levels increased for the control group, and decreased modestly for the 500 mg group. However, mean blood pressure for the 1,000 mg olive leaf group decreased from 137 mmHg to 126 mmHg (systolic) and from 80 mmHg to 76 mmHg (diastolic)—and in just eight weeks.27

These findings were supported by another, larger study of 232 patients aged 25-60, with stage 1 hypertension. In a randomized, double-blind, active-controlled trial, scientists compared the efficacy of olive **leaf** against *captopril* (**Capoten**[®]), an antihypertensive drug. Some participants received twice-daily dosages of **500 mg** of the olive leaf formulation, while others were given the standard twice-daily dosages of 12.5 to **25 mg** (adjusted as required) of *captopril*.

After a treatment period of eight weeks, blood pressure was reduced for both groups. The systolic readings decreased by a mean of 11.5 and 13.7 mmHg for the olive leaf and *captopril* groups, respectively. Also, the diastolic readings decreased by a mean of 4.8 and **6.4 mmHg** for the olive leaf and *captopril* groups,



Olive Leaf Compound Helps Maintain Healthy Blood Pressure Levels

- Mainstream medicine's definition of what constitutes "safe" blood pressure is dangerously high.
- The available drugs to treat high blood pressure come with a host of adverse side effects, from edema to electrolyte imbalance.
- Oleuropein, a compound found in high concentration in the olive leaf, favorably modulates arterial resistance or stiffness, high blood pressure's core mechanism.
- A special extraction technique has been developed to prevent the degradation of oleuropein typical in standard processing.
- This specially processed, highly stable form of oleuropein reduced systolic blood pressure by an average 11.5 mmHg, and diastolic blood pressure by 4.8 mmHq-in just eight weeks.

Why Modern Medicine Fails Aging Individuals with High Blood Pressure

High blood pressure gradually destroys delicate vasculature and organs throughout the body and is associated with a horrific array of pathologies, from dementia and retinopathy to kidney failure, stroke, and heart attack.²⁹

So why is blood pressure so poorly controlled among vast numbers of aging individuals?

There are <u>three</u> major problems with the way mainstream medicine approaches elevated blood pressure. All stem from the fact that doctors remain in the Dark Ages when it comes to hypertension diagnosis and treatment.

The first problem is the woefully outdated medical definition of high blood pressure outlined in the beginning of this article.³⁰ Despite data showing optimal blood pressure should be around **115/75 mmHg**, researchers have found that doctors *seldom* treat

patients unless their readings go far beyond the dangerously high level but medically "acceptable" reading of **140/90 mmHg**.^{2,22} As one team of researchers noted, "Hypertension control is unlikely to improve unless physicians become more aggressive in treating *mildly* elevated systolic blood pressure."³¹

The second problem is that even when a patient's blood pressure consistently reads above mainstream medicine's official starting point of **140/90 mmHg** for stage I hypertension,² conventional physicians have *still* been stubbornly reluctant to treat it. Typically, treatment is initiated when readings exceed the extremely high point of **160/90 mmHg**,³¹ needlessly *increasing* the risk of disease and death.

The third problem is that most patients placed on drugs only manage to control their blood pressure for part of each day.²³

respectively. The difference in outcomes between the two groups was not considered significant, and the team concluded that the olive leaf extract "was similarly effective" as the drug option.⁵

Also, the scientists noticed an average 7.8% reduction in triglyceride levels among the olive leaf extract group. The extract group also achieved mean decreases of 2.8% in total cholesterol, and 2.9% in low-density lipoprotein (LDL). There were \underline{no} such reductions in the drug group.⁵

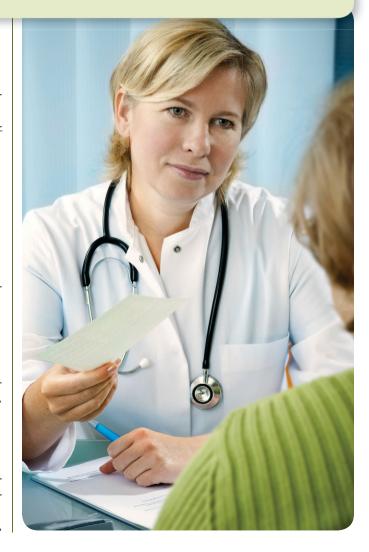
The study team speculated that the constituents of olive leaf extract "might be associated with inhibiting angiotensin-converting enzyme," an effect that helps relax artery walls.⁵

Based on the above studies, the recommended dosage for olive leaf extract is 500 mg twice a day, working in conjunction with your physician.

Summary

Mainstream medicine's definition of what constitutes high blood pressure remains grossly *inaccurate*, prompting physicians to withhold necessary treatment and costing millions of lives. Certain drugs used to treat hypertension are accompanied by a host of adverse side effects, from edema to electrolyte imbalance.

Oleuropein, a compound found in high concentration in the **olive leaf**, has been shown to favorably modulate high blood pressure's core mechanism: arterial resistance or stiffness. In a double-blind,





controlled study in humans, this formulation reduced systolic blood pressure by an average 11.5 points **mmHg**, and *diastolic blood pressure* by **4.8 points**—in just eight weeks.

The target blood pressure, at rest, over a full **24-hour** day to reduce cardiovascular disease risk is 115/75 mmHg for most healthy individuals. Lifestyle changes including nutrition, exercise, and weight loss can help. In aging individuals, however, optimal blood pressure control may require a prescription antihypertensive drug like 10 to 20 mg a day of Benicar[®]. A report last year linked the use of drugs in the class of Benicar® (angiotension II receptor blockers) with a slight increase in cancer incidence, so the lowest effective dose of this class of drug would appear preferable.²⁸

Olive leaf extract can help support healthy blood pressure. If you require anti-hypertension medications to control your blood pressure, you should carefully monitor your blood pressure at home with an accurate home blood pressure monitor. Lifestyle changes to include nutrition may allow you to reduce your reliance on prescription medication and achieve your target blood pressure. However, never make abrupt changes to your anti-hypertensive medication regimen without first discussing your medical history with a qualified health care practitioner.

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

Uncontrolled Blood Pressure, Deadly Damage

Both prolonged and periodically high blood pressure inflicts progressively lethal damage to multiple organs and physiological systems, including:29

Endothelial dysfunction

Generalized atherosclerosis

Aortic aneurysm

Arteriosclerotic stenosis

Stroke

Intracerebral hemorrhage

Hypertensive encephalopathy

Retinopathy

Vascular dementia

Atrial fibrillation

Myocardial infarction

Coronary heart disease

Heart failure

Left ventricular hypertrophy

Chronic kidney disease

Renal failure

Blood pressure above 115/75 mmHg² should be treated early and aggressively to avert these forms of incremental and potentially lethal damage.

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Caution

If you have hypertension (high blood pressure) and/or are currently taking medication to lower your blood pressure, seek medical advice before taking olive leaf extract. Consult with a health care professional prior to taking or using any product that may affect blood pressure. If advised by a health care professional to take olive leaf extract concurrently with anti-hypertensive medication, adjust the dose only under the continued care of a health care practitioner.



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DO YOU KNOW WHAT YOUR BLOOD PRESSURE REALLY IS?

Large numbers of aging people are needlessly dying because they don't know how high their blood pressure is.

Frightening new studies reveal that most people taking an antihypertensive drug under medical supervision still suffer from high blood pressure. What this means is that prescription drugs and physician care are not enough to adequately control blood pressure in the majority of people.

One reason that conventional medicine so often fails to optimally control blood pressure is that hypertension can be caused by several underlying factors. While an antihypertensive drug will usually reduce blood pressure somewhat, it often requires a comprehensive program (including lifestyle modifications and specific nutrients) to achieve optimal blood pressure readings of below 120/80.

The problem is that hurried doctors sometimes prescribe the same drug, in the same dose, to all of their hypertensive patients. As can be seen by published medical data, this is not enough to keep most patients' blood pressure <u>below</u> 120/80.

TAKE CONTROL OF YOUR BLOOD PRESSURE

Over the last 15 years, home blood pressure monitors have been developed that are proving highly reliable. In fact, some of these home blood pressure monitors are now being used in doctors' offices.

The availability of these monitors enables consumers to test their own blood pressure several times a day to make sure whatever anti-hypertensive program they are following is really working. The importance of being able to check one's own blood pressure cannot be overstated.

In some cases, a doctor will prescribe once-a-day dosing of an anti-hypertensive drug that fails to provide 24-hour blood pressure control. By testing your blood pressure several times a day, you can inform your doctor that you may need to take your medication more frequently. In too many cases, the drugs prescribed to control blood pressure provide only a partial reduction. By testing your own blood pressure, you can make decisions about lifestyle changes and nutrient interventions that could enable you to achieve optimal blood pressure control (with or without drugs).

THE BEST BLOOD PRESSURE MONITORS

There are a wide variety of blood pressure monitors sold in pharmacies. Life Extension® conducted an analysis of the blood pressure monitors on the market to identify those with the best features at the best price.

Many cuff monitors work only on batteries, which can be inconvenient and expensive when the batteries have to be frequently changed. Other monitors have cuffs that do not fit around all arms, or lack features that enable people to electronically track their blood pressure readings over an extended time period. Life Extension has identified an at-home monitor with the <u>best</u> features and is offering them to members at a substantial discount.

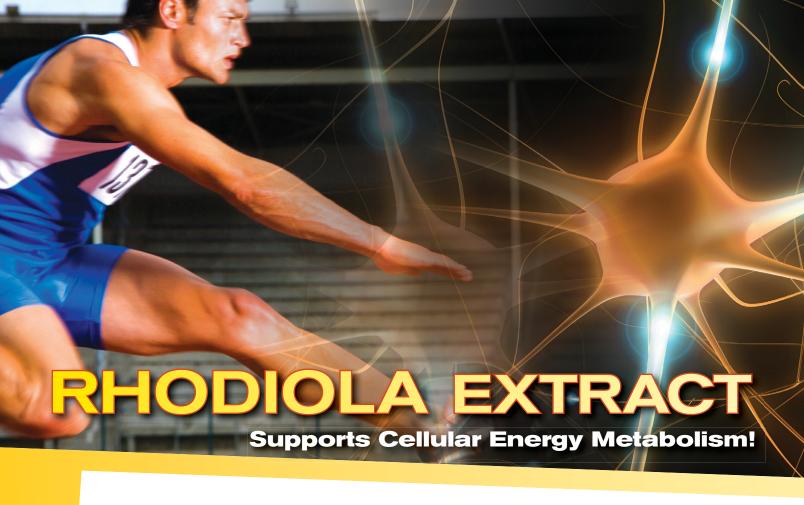
For at-home blood pressure monitoring, the **LifeSource® One Step-Plus Blood Pressure Monitor** incorporates the latest technology for accurate measurements. Some of the features of this fully automatic device include:



- Simultaneous readout of systolic/diastolic pressure and pulse rate
- Lifesaving irregular heartbeat detection feature
- One-button operation and large digital display
- An AC adapter to plug into your wall outlet (also runs on batteries)
- A large cuff to fit most arms
- 30-reading memory with average reading display
- Lifetime warranty

The LifeSource® One Step-Plus Blood Pressure Monitor retails for \$99.95, but Life Extension members pay only \$64.97 . . . a 35% discount! To order this blood pressure monitor call 1-800-544-4440.

To order the at-home cuff Blood Pressure Monitor call 1-800-544-4440 or visit www.LifeExtension.com



A common complaint among older adults is loss of physical and mental energy.

As people age, their cells' ability to produce energy is diminished. Many scientists believe that cellular energy deficit is a critical factor in the onset of many problems.

The Russian herb **rhodiola** (Rhodiola rosea) has demonstrated a remarkable ability to support cellular energy metabolism.* **Rhodiola** promotes higher levels of ATP (adenosine triphosphate) and CP (creatine phosphate) in the cellular power plants known as the mitochondria, thus providing more of the energy molecules need to power many daily activities.¹

In a human trial, *rhodiola* aided exercise endurance after just a single dose.² In another double-blind, crossover human trial, *rhodiola* increased several measures of mental performance, including associative thinking, short-term memory, calculation, concentration, and speed of audiovisual perception. Statistically significant improvements were reported after just two weeks of supplementation.³

Life Extension® has formulated a **Rhodiola Extract** that provides **250 mg** of *Rhodiola rosea* extract in each capsule.

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Unlike other rhodiola supplements on the market today, **Rhodiola Extract** uses only the authentic *Rhodiola rosea* species and is standardized to contain the proven 3:1 ratio of 3% *rosavins* and 1% *salidrosides*—matching the concentrations of active "adaptogens" used in clinical trials.

Rhodiola Extract is an extremely low-cost supplement. The retail price of a bottle of 60 vegetarian capsules (a two-month supply) of Rhodiola Extract is just \$11.75. If a member orders four bottles, the price is reduced to only \$7.94 per bottle!

Caution: Individuals with manic or bipolar disorder should not use Rhodiola. Take early in the day if Rhodiola Extract interferes with your sleep.



Item # 00889

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



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



EXCESS IRON and **BRAIN DEGENERATION**:

The Little-Known Link

BY KATHLEEN ANDERSON

Iron gradually builds up in certain cells and tissues over the course of the human life span. Too much iron accelerates mitochondrial decay and inflicts system-wide free radical damage to healthy tissues. Age-related iron overload is a known contributor to multiple degenerative diseases, including liver fibrosis, heart attack, and cancer. Age-related iron overload is a known contributor to multiple degenerative diseases, including liver fibrosis, heart attack, and cancer.

Iron accumulation is often a consequence of aging. In the laboratory, total iron content has been shown to increase exponentially as cells age, resulting in 10-fold higher levels of iron compared to young cells.³

Sadly, owing to physician and patient ignorance, the significant dangers posed by *excess iron* in the body remain little known and often overlooked. As a result, most maturing individuals are not taking aggressive measures to ensure ideal *total-body iron status*—and most doctors do not properly test for it.

In this article, you will discover the results of a **groundbreaking UCLA study** published late last year conclusively linking **excess iron accumulation** in brain tissue to **neurodegenerative brain disorders** like Alzheimer's and Parkinson's. 9,10

You will also find a multi-pronged approach to prevent and even *reverse* iron-induced tissue damage in the brain, liver, and kidneys using nutrients **Life Extension**® members already take, such as **quercetin**, **curcumin**, **lipoic acid**, and **green tea**.>>

Brain Iron Levels, Alzheimer's Disease, and Cognitive Decline

Dr. George Bartzokis is a widely published researcher and professor of psychiatry at the Semel Institute for Neuroscience and Human Behavior at UCLA. Much of his work has been devoted to understanding the role that iron plays in human brain development, function, and aging, with a particular emphasis on the link between **iron** and **neurodegenerative disorders**, including **Alzheimer's** and **Parkinson's** disease.

From that work, Bartzokis and his colleagues have generated a detailed picture of iron metabolism across the human life span.

Bartzokis' team showed that they could accurately measure iron levels in living humans' brains by using a highly specialized non-invasive form of magnetic resonance imaging (MRI).¹¹ Applying this technique to groups of people with and without Alzheimer's disease, the researchers quickly discovered significantly larger amounts of stored iron in certain brain regions in those with Alzheimer's than in control subjects.^{9,12} Similar findings held true in Parkinson's and Huntington's disease sufferers as well.^{10,13}

Those discoveries raised the intriguing question of whether the iron was a potential contributor to the neurodegenerative disease process, or whether it was a byproduct of the disease itself.

Further work revealed the definitive answer. First, the brain scan studies showed that increased iron levels were present at the earliest onset of disease, indicating that they were not a consequence but rather a potential cause of brain degeneration.¹³

Second, even in apparently healthy individuals, iron levels rise steadily with age in some of the very brain regions affected by Alzheimer's, Parkinson's, and Huntington's diseases.¹⁴ Those regions include the basal ganglia, which contain the highest levels of iron in the brain.¹³ Third, the researchers found that people with the highest brain iron accumulations had the earliest age at onset of the degenerative diseases.¹⁵

By now it was clear that the presence of excessive iron in affected brain areas was somehow directly involved in triggering the neurodegenerative disease processes. Iron was fast emerging as a *potentially modifiable age-related risk factor* for these conditions.¹⁵

But it wasn't only neurodegenerative diseases for which excessive iron accumulation was a risk. The UCLA researchers studied a group of healthy older adults, comparing memory and information-processing speed according to their brain iron levels. Those with the highest accumulations of iron in their brain grey matter had the poorest performance, especially among men.¹⁶

Bartzokis' team was struck by several other gender differences apparent in these diseases: men are more likely to develop these conditions at earlier ages than women, and women have significantly lower iron levels in five vital brain regions than men of similar ages.¹⁷

A Breakthrough Study

These findings led to a compelling study published in late 2011 demonstrating for the first time that *limiting your body's lifetime exposure to iron can in turn limit your risk of neurodegenerative brain disorders*.

It began with the observation that women not only have lower brain iron levels in their later years, they also have lower iron levels throughout their bodies for most of their lives. It has long been known among physicians that this difference arises because women lose iron during their reproductive years through menstruation. Could that steady, low-level loss of iron

How Excess Iron Inflicts System-Wide Damage

The interplay between dietary iron intake and total health is more complex than most people grasp.

Here's why: iron-rich red blood cells typically die after about 90 days. Much of the iron contained in their hemoglobin molecules is recycled to generate *new* hemoglobin and new red blood cells. (The same is true of the iron in muscle cells.)

The problem? A significant amount of this iron is not recycled. Instead, it accumulates in cellular repositories called *lysosomes*.

Our bodies use iron because it is a powerful *catalyst*, speeding chemical reactions essential to life. But it is precisely that catalytic function that makes iron so dangerous in excess. "Useful" iron in your body is bound to carrier proteins and enzyme systems that isolate it from bodily tissues, and that direct its catalytic activities to where they are needed. But iron in its **unbound state** is free to react unselectively with a variety of chemical compounds. ¹⁵

Unbound iron from age-related overload reacts volatilely with water and oxygen to produce highly reactive oxygen species or free radicals. 19,41,42 These in turn damage cell membranes, DNA, mitochondria, and multiple tissues and organs. 4,73

be an effective means by which women inadvertently but effectively *limit* their lifetime exposure to iron, thereby protecting themselves from early-onset brain disorders?

Dr. Todd A. Tishler, a protégé of Dr. Bartzokis at UCLA, discovered a way to test that hypothesis. Tishler, Bartzokis, and colleagues studied brain scan images of 39 postmenopausal women, of whom 15 had undergone a hysterectomy prior to menopause.¹⁸ Those women obviously had stopped menstruating prior to menopause, prematurely ending their bodies' ability to lose iron on a regular basis. The other women had experienced regular periods until menopause. For comparison, the researchers included brain scans of 54 men of similar ages.

Not surprisingly, the men's brains had higher iron levels than those of women who had reached menopause naturally, without hysterectomy. But in a compelling validation of Tishler's hypothesis, the brains of the women with hysterectomies exhibited iron levels not only *higher* than normal menopausal women but identical to levels in male subjects.18

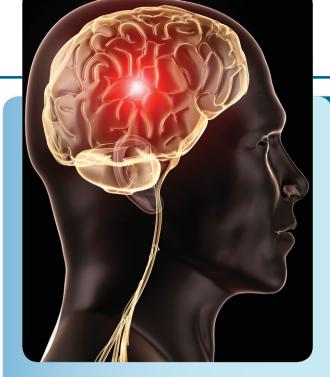
The UCLA study demonstrated that lifelong menstruation grants most mature women beneficially lower brain iron levels and affords significant protection against early onset of neurodegenerative brain disorders.

It also underscores the critical need for humans to aggressively limit *lifetime* exposure to iron and thereby substantially lower their risk of neurodegenerative brain disorders and cognitive decline.

Natural Ways to Limit Iron-Induced Tissue Damage

There are several ways you can limit the damaging effects of excessive iron in your body. The most obvious is to monitor how much iron you ingest. Experts now typically recommend that older adults limit their intake of red meat, which is our major natural dietary source of iron. You should also choose your vitamin and mineral supplements carefully. Unless you have iron-deficiency anemia, you are unlikely to benefit from extra supplemental iron, and it is absent from properly formulated dietary supplements.

But what can you do about the iron your body has already absorbed and has now accumulated in potentially dangerous ways in your tissues? There are two main approaches you should take. The first is to supplement with nutrients that can bind up, or chelate the iron in molecular complexes. Chelation isolates iron from tissues and limits its ability to catalyze the oxidant reactions that damage them. Chelation also hastens excretion of excess iron from your body.¹⁹



The Link Between Excess Iron and **Brain Degeneration**

- Accumulation of iron in bodily tissues is an inevitable consequence of aging.
- Pathologic age-related iron overload damages cells and tissues and is a causative factor in numerous degenerative diseases, including liver fibrosis, cardiovascular disease, and cancer.
- Few doctors inform their patients of the dangers of high total-body iron distributions, nor do they test for total-body iron status.
- Excessive iron accumulations are found in affected brain areas of people with Alzheimer's, Parkinson's, and other neurodegenerative diseases.
- Even in normal older adults, people with higher brain iron accumulations perform more poorly on cognitive tests than do those with lower brain iron concentrations.
- A breakthrough UCLA study demonstrates that limiting lifetime exposure to iron can reduce brain iron accumulations.
- A number of nutrients can help reduce your body's total exposure to iron through chelation (binding to free iron atoms) and antioxidant activity, including quercetin. curcumin, R-lipoic acid, and silymarin.



Ultimately, that means that chelation limits your body's exposure to the destructive effects of iron accumulations.

The second approach to minimizing long-term iron damage is to optimize your antioxidant regimen. That can help you prevent any further damage by iron's catalytic reactions with oxygen.

We'll now examine the compelling data for nutrients that can protect your body from excess iron accumulations by chelating iron, enhancing your antioxidant defenses—or both.

Quercetin

Flavonoids are naturally occurring plant molecules that offer both powerful antioxidant protection and the ability to bind to free iron atoms. 19-21 Quercetin, a flavonoid found in berries and other plants, chelates iron atoms as powerfully as the prescription drugs used in managing severe cases of iron overdose. 22,23 Quercetin's antioxidant effects are likely to be closely related to its strong iron-chelating capacity, and account for its ability to prevent the DNA strand damage that precedes cancer development. 24,25

Studies of quercetin reveal that it can prevent the **kidney damage** associated with acute iron overload from muscle breakdown, one of the leading causes of acute renal failure.²⁶ Similarly, liver injury from long-term exposure to iron is prevented in laboratory animals supplemented with quercetin.^{27,28} Quercetin

is included in properly formulated resveratrol supplements since it boosts resveratrol's beneficial effects in the body.

Cranberry and Pomegranate

Dark-colored and red fruits are known to have many health benefits, in large part because of their high content of polyphenols. Cranberry and pomegranate extracts rich in polyphenols have now been shown to have potent iron-chelating capabilities, in some cases completely suppressing iron-catalyzed oxidant reactions.^{22,29}

We've long known that cranberry juice and extracts are active in preventing urinary tract infections with some of the most common pathological organisms. The traditional view has been that the extracts' antioxidant and anti-adhesive powers are the primary mechanisms. New evidence shows that another way cranberry extracts work is by *depriving infecting bacteria of the iron they need for survival through chelation*. 30,31

Green Tea Extract

After water, tea is the most commonly-consumed beverage in the world.³² Green, unfermented tea leaves have numerous health benefits, chiefly attributable to their content of a polyphenol molecule called epigallocatechin-3-gallate, or **EGCG**.³² EGCG is a well-known antioxidant.³³ In recent years, it was shown to powerfully chelate unbound iron and protect vulnerable tissues.^{34,35}

Green tea extracts rich in EGCG bind to iron, and scientists have proposed their use as an alternative or adjunct to commercial iron chelators, which, while effective, may come with negative side effects. 36,37 Such drugs are used to treat *thalassemia*, a condition which when severe enough, can cause massive iron accumulations as the result of frequent blood transfusions. EGCG from green tea has now been used safely and effectively to bind and remove iron from the blood of individuals with thalassemia. 37,38 And in studies of animals deliberately overloaded with iron to mimic aging, green tea extracts are able to bind free iron and reduce iron-related tissue oxidation in **brain** and **liver** tissue. 36,39,40

Unlike many drugs and nutrients, EGCG readily crosses the **blood-brain barrier**. This allows it to capture and isolate iron from the brain regions affected in Alzheimer's, Parkinson's, and Huntington's diseases. In contrast to many current drug therapies, which can only *modify* symptoms in these tragic conditions, iron chelation by EGCG rich green tea extract offers the potential to prevent and reverse the progression of the disease process itself. 44-46

Should You Really Be Taking Iron?

Despite the dangers posed by excessive iron accumulation, aging individuals still require sufficient iron intake for optimal health.

In order to know whether you are getting adequate (or excessive) amounts of iron in your diet, you need to know your total-body iron status. This requires a series of blood tests beyond those normally administered to determine whether you suffer from anemia.

For a comprehensive snapshot of your current total-body iron status, ask your doctor to include serum ferritin and total iron-binding capacity in addition to the *hemoglobin* and *hematocrit* measured in a typical blood count. Your doctor may order additional tests based on these results.

If you don't have iron deficiency or anemia, taking supplemental iron is not advisable and may contribute to onset of the degenerative disorders associated with iron overload, from Alzheimer's and Parkinson's to cancer and cardiovascular disease. Multivitamin and mineral formulations for maturing individuals should *not* contain extra iron for that very reason. Pregnant women have increased iron requirements and should consult their physician to determine if iron supplementation is appropriate. Be certain that your supplements are

Curcumin

Curcumin is the major chemical component of the spice turmeric, which has multiple health benefits as an antioxidant and anti-inflammatory molecule. 47-49 The unexpected discovery that curcumin is also a powerful iron chelator has given us new insight into its multimodal mechanisms of action in gaining control of age-related iron accumulations in the brain, heart, and liver.50-53

Iron chelation by curcumin is now recognized as one of the mechanisms by which it prevents cognitive deficits and pathological tissue changes in animal models of Alzheimer's disease.⁴⁸ In addition to its direct chelation of iron, curcumin induces increased genetic expression of the body's natural iron-binding and transport protein, *ferritin*, further sequestering iron away from vulnerable tissues.⁵⁰ These multiple capabilities lead directly to reduction in iron levels in iron-overloaded organs. 50,53-55

Recently, it was discovered that curcumin's ironchelating ability helps restore natural DNA repair mechanisms, an additional means of protecting damaged neurons in Alzheimer's and Parkinson's diseases.⁵⁶ And, in a fashion similar to cranberry polyphenols, curcumin can inhibit growth of microorganisms (in this case, yeast) by depriving them of the iron they need to reproduce.⁵⁷



Milk Thistle (Silymarin and Silibinin)

Milk thistle extracts have been used for centuries in managing diseases of the liver and gallbladder.⁵⁸ Iron accumulations and the resulting oxidant stress in liver tissue are responsible for progressive fibrosis (scarring) and ultimately liver failure.^{2,59} Early work on milk thistle extracts focused on their antioxidant functions, but more recently evidence for potent iron chelation has been revealed as an additional liver-protective mechanism.58,60 Iron-overloaded animals can be protected from the liver fibrosis-inducing effects of iron by regular doses of silibinin, a milk thistle component.2,59

Impressive human data for the impact of silibinin on iron-overloaded patients is now available. In patients with **chronic hepatitis C**, in whom iron accumulations contribute to liver failure, treatment with a mixture of **silibinin** and **soy complex** resulted in a significant decrease in serum levels of ferritin, the iron-bound protein that reflects total body iron levels.61 In patients with thalassemia major, who have massive iron accumulations as a result of multiple transfusions, 140 mg three times per day of the milk thistle component *silvmarin* enhanced the ironchelating effects of the drug desferrioxamine. 62 Similar results have been shown using 140 mg per day of *silibinin* in patients with another form of iron overload, hereditary hemochromatosis. 63

Lipoic Acid and Carnitine

Lipoic acid and carnitine are small-molecule nutrients vital to your body's management of its energy flow. 64,65 Potent antioxidants, they are both credited with **protecting mitochondria** and thereby slowing the aging process. Exciting work is now emerging that shows that each of these nutrients, in each of several forms, exerts its favorable anti-aging effects by chelating iron as well.64-66

A form of carnitine called *L-propionyl carnitine* is known to improve heart muscle recovery after a heart attack. It acts as an energy source for heart muscles, and also as an anti-free radical agent in damaged heart tissue; the latter effect has now been shown to be the result of iron chelation.⁶⁵ Another form, acetyl-*L-carnitine*, exhibits powerful antioxidant effects that reverse the impact of iron-induced oxidative stress in human cells.67

Lipoic acid chelates iron in *lysosomes*, cellular components that are a site of iron storage, effectively preventing iron-induced oxidative damage. 68,69 This nutrient also reduces iron uptake by cells in the lens of the eye, suggesting a potential role in preventing cataract formation.70

An important animal study has now demonstrated that supplementation with R-lipoic acid reverses agerelated accumulation of iron in rat brain tissue and restores normal antioxidant activity.71 This study has direct bearing on the prevention and treatment of neurodegenerative diseases in humans, the very conditions that Dr. Bartzokis and colleagues have been studying at UCLA.

Summary

Accumulation of iron in cells is a widely overlooked and inevitable consequence of aging. Pathologic agerelated iron overload damages cells and tissues and is a causative factor in numerous degenerative diseases, including liver fibrosis, cardiovascular disease, and cancer. Few doctors inform their patients of the dangers of excess iron, nor do they test for total-body iron status. Excessive iron accumulations are found in affected brain areas of people with Alzheimer's, Parkinson's, and other neurodegenerative diseases. Even in normal older adults, people with higher brain iron accumulations perform more poorly on cognitive tests than do those with lower brain iron concentrations. A breakthrough UCLA study demonstrates that limiting lifetime exposure to iron can reduce brain iron accumulation. A number of nutrients can help reduce your body's total exposure to iron through



chelation (binding to free iron atoms) and antioxidant activity. These include quercetin, curcumin, R-lipoic acid, and milk thistle.

The majority of people should avoid multi-vitamin supplements fortified with iron, as most aging individuals already have too much iron in their bodies. •

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 higherthan-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

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.



(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.

For those wishing to pursue multi-nutrient strategies to support optimal after-meal glucose control, see additional Life Extension® formulas featuring green coffee bean extract in this issue.



Item # 01604



Item # 01620

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



For those seeking a high-quality quercetin formula, Life Extension® introduces Optimized Quercetin—a new "gold-standard" formula derived from a proprietary food-source blend.

Quercetin is a bioflavonoid with unique qualities that supports cellular health and function. In human cell culture studies, guercetin has been shown to block the manufacture and release of inflammation-causing substances, 1,2 which can help support a healthy immune response to the seasonally changing environment.

Quercetin also helps promote a healthy cardiovascular system by preserving endothelial integrity³ and supporting healthy blood glucose levels for those already within normal range.4

Optimized Quercetin contains 250 mg of standardized quercetin plus 250 mg of super food extracts that provide an array of added health benefits. A bottle of 60 vegetarian capsules of **Optimized** Quercetin retails for \$18. If a member buys four bottles, the cost is only \$12.75 per bottle. ITEM # 01309

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

Contains corn.





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

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 lo 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

yo<mark>u</mark>r treating doctor, <mark>as your doctor may need to increase your dos</mark>e 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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Item # 01224

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



BY WILLIAM FALOON

Starting in 1983, the Life Extension Foundation® warned of dangers associated with commercial multivitamin/mineral formulas.

Our *earliest* concern was that **free radicals** generated by supplemental **iron** would <u>increase</u> cancer and heart disease risk. Our fears were born out shortly thereafter in published studies showing that elevation in markers of iron intake <u>increased</u> risk (by more than fivefold) of common **degenerative diseases** including heart attack and cancer.¹⁻¹⁷

Back in **1983**, commercial companies bragged in their advertising about how much **iron** their multivitamins contained. Despite our repeated warnings, very few commercial supplement companies <u>removed</u> iron from their multivitamin formulas as the public perception was that supplemental iron was beneficial.

The result of this misconception was that individuals using **commercial supplements** were obtaining miniscule quantities of **antioxidants** to protect against free radicals, while simultaneously ingesting large amounts of **iron** (and sometimes copper) that are known **free radical-generators**. ¹⁸

Based on findings from a newly-released study,¹⁹ the media is attacking the safety of multivitamin/mineral supplements.²⁰ The nutrient these researchers identify as causing the **greatest** numbers of deaths is **iron**!

It would be convenient for **Life Extension** to use the findings from this negative study to bolster our argument **against** supplemental **iron** intake (unless individual blood markers indicate iron deficiency). The problem is that the study the media is using to attack multi-nutrient supplements has so many fundamental **flaws** that it is impossible to extract reliable data from it.

The name of this report is the **Iowa Women's Health Study**. Based on its numerous flaws, we can't accept the authors' contention that supplemental **iron** was the culprit behind increased mortality.

The media, of course, lumps ALL nutrients together and claims they are "no fountain of youth for women." As you'll read, the findings from this latest study are so distorted that they don't apply to most multivitamin users today, let alone the aggressive disease prevention program followed by **Life Extension** members.>>

People Often Don't Take Dietary Supplements Until They Get Sick

It's a sad fact that most common diseases of aging are preventable, yet most people don't engage in healthier lifestyle choices until <u>after</u> serious illness manifests.

The classic example is an individual who never swallowed a single dietary supplement <u>until</u> they're diagnosed with **cancer**. They then go from <u>zero</u> to <u>low</u> intakes of supplemental nutrients to swallowing **40 or more** pills a day in what is too often a futile attempt to cure advanced-stage disease.

In the **Iowa Women's Health Study**, the authors admit they did not factor in the increased intake of dietary supplements that occur in response to the development of symptoms or diagnosis of serious disease. Stated differently: If a woman was diagnosed with stage IV breast cancer and began ingesting 40 supplements daily, but died six months later, she would have been counted as being a heavy supplement user who died prematurely.

In other words, women who did not begin supplementing until <u>after</u> symptoms and/or disease manifested would have been classified from a statistical standpoint as being part of the group that ingested large quantities of supplements, but died early nonetheless.

This flaw by itself could render the overall findings of the **Iowa Women's Health Study** meaningless because much of the lay public today mistakenly associates dietary supplements as something very important to initiate <u>after</u> serious disease appears.

We at **Life Extension** hear this often, as people call us with recently-diagnosed illness and state they are now ready to take every supplement they should have been using all along.

Women Taking Supplements Also Took More Dangerous Hormone Drug

If a woman is going to the trouble of swallowing a **multivitamin/mineral supplement** each day, she is also more likely to take **hormone drugs** her doctor recommends.

Unfortunately, a popular hormone drug being recommended at the time of this study period was **PremPro**® (a combination of Premarin® and Provera®). These <u>unnatural</u>-to-the-human-body forms of estrogen and progestin have been linked to a host of lethal diseases that cause premature illness and death.²¹⁻²⁵

In the **Iowa Women's Health Study**, about <u>twice</u> as many women who took multivitamin/mineral supplements *also* took **non-bioidentical** hormone

replacement therapy, which is associated with early mortality. In numerical terms, 13.5% of the supplement users took hormone therapy at baseline, compared to only 7.2% of non-supplement users. This ratio showing more supplement users taking hormone drugs persisted to the end of the observational period.

In technical terms, this is known as a "confounding factor" because the increase in mortality caused by these dangerous hormone drugs would skew the results in a way that would show higher death rates in women taking these **hormone drugs** who *also* happened to be taking a **multivitamin/mineral supplement**.

The differences between groups at baseline are profoundly important to the integrity of the analysis. In fact, in order to fairly and accurately investigate the effects of any intervention, both the active treatment group and the control group must be balanced in their characteristics. If not, then this creates a powerful source of bias that can have unexpected results.



This flaw alone may have rendered the study's findings meaningless from both a statistical and real-world standpoint.

Findings of Reduced Mortality Overlooked by Media

The **Iowa Women's Health Study** initially showed that women who supplemented with **vitamins C, D, E,** and **calcium** had significantly <u>lower</u> risks of mortality.¹⁹

The study authors then blended this positive data with the negative results of iron and copper use and other multivariable adjustments to conclude increased mortality associated with multivitamin/mineral supplementation.

These "multivariable adjustments" were at the discretion of the study authors and could have been skewed either way to show positive or negative outcomes. Based on the negative remarks expressed at the beginning of the report, there appeared to be **author bias** against the use of multivitamin/mineral supplements.

This *bias* was especially troubling when recent positive findings were **omitted** from the initial discussion. For example, a study published in July 2011 in the *European Journal of Nutrition* with the purpose to prospectively evaluate the association of vitamin/mineral supplementation with cancer, cardiovascular, and all-cause mortality arrived at a completely **opposite result**.

In lay terms, this European study indicated that users of antioxidant vitamin supplements had a **48**% reduced risk of cancer mortality and **42**% lower all-cause mortality.²⁶ Yet the media did not even bother to mention these impressive findings. Apparently they thought a better headline grabber would be to frighten users of dietary supplements with the blatantly flawed **Iowa Women's Health Study**.

Too Much Vitamin A!

Popular multi-nutrient formulas used during the majority period of when the Iowa Women's Health Study was conducted contained far too much preformed vitamin A and inadequate amounts of vitamin D. One popular formula provided **25,000 IU** of preformed vitamin A and only **400 IU** of vitamin D.

Even today the average amount of preformed vitamin A in most multi-nutrient formulas is far too high in relation to vitamin D content.

The problem with this potency ratio is that in the presence of excess preformed vitamin A, the beneficial effects of vitamin D can be neutralized.²⁷

Flawed Study Used to Discredit Multivitamin/ Mineral Supplements

- Following the recent publication of the lowa Women's Health Study, the media is attacking the safety of multivitamin/mineral supplements.
- The study authors concluded that several vitamin and mineral supplements, including iron, were associated with increased mortality risk.
- Since 1983, the Life Extension Foundation has warned of the dangers associated with commercial multivitamin/mineral supplements.
- Excess iron and inadequate antioxidants in common multivitamin/mineral supplements may increase oxidative stress, setting the stage for increased disease risk.
- Numerous flaws in the lowa Women's Health Study render the findings meaningless. The authors did not account for increased supplement intake in response to disease diagnosis. Supplement users were more likely to be using PremPro[®]. Questionnaires were used to gather data; there was no objective measure of compliance with vitamin use.
- Multi-nutrient supplements that were popular
 at the time the lowa Women's Health Study
 was initiated contained high levels of preformed vitamin A and low levels of vitamin D.
 Excess vitamin A can suppress vitamin D's
 beneficial effects. This alone could explain
 why multi-nutrient supplements failed to
 reduce mortality.
- The lowa Women's Health Study has nothing to do with Life Extension members, who do <u>not</u> take low-potency multivitamin formulas containing excess iron and copper and who usually take high-potency antioxidant formulas that provide gamma tocopherol and vitamin K, along with other nutrients like omega-3 fatty acids and curcumin.

Vitamins A and D compete for each other's <u>function</u> in the body. Preformed vitamin A, found in excess amount in many commercial supplements, can thwart vitamin D's protective effects.²⁷ This is <u>not</u> an issue with beta-carotene, as it converts to vitamin A in the body only on demand.

Consumption of excess preformed vitamin A, as found in commercial multivitamins and modern cod liver oil, may cause bone toxicity in those with <u>inadequate</u> vitamin D status. One study showed that women with the highest intake of preformed vitamin A had 2.1 times more hip fractures.²⁸ A meta-analysis found that people who took preformed vitamin A supplements had a 16% <u>increase</u> in overall mortality,²⁹ perhaps through antagonism of vitamin D.

When vitamin A supplements are given to children with <u>low</u> vitamin A status, the children have far fewer infections.³⁰ When children hospitalized with pneumonia were given higher doses of preformed vitamin A, however, it worsened the clinical course, suggesting that the vitamin should not be given unless there is clinical evidence of deficiency (or concurrent measles infection).³¹

While vitamin A is critical in regulating cellular proliferation—and thus helping to protect against malignant diseases—when taken in excess amounts, preformed vitamin A may suppress the even more important anticancer effects of vitamin D.³²

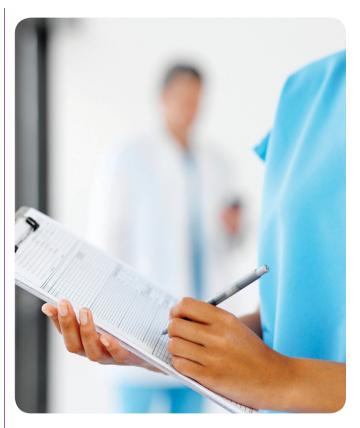
Published studies confirm that **400 IU** of vitamin D a day, even if taken by itself, is <u>not</u> enough to protect against age-related disease.³³⁻³⁷ In the presence of excess preformed vitamin A, as is still found in most commercial multivitamins, the effects of the small amount of vitamin D they contain may be <u>nullified</u>.

If it were not for the fundamental <u>flaws</u> in the Iowa Women's Health Study, the <u>excess</u> vitamin A and <u>insufficient</u> vitamin D could be the reason that multivitamin/mineral supplements failed to reduce mortality.

The Problem with Ouestionnaires

A significant challenge in attempting to evaluate the effects of a long-term regimen on human populations is huge variables and relatively long human life spans. This often means a surrogate method must be used in an attempt to gather accurate data.

The **Iowa Women's Health Study** used questionnaires to gather data—it was not a direct intervention study. This is an important difference because questionnaires are notoriously unreliable in accurately capturing information. Contrast this approach to actively providing a group of test subjects a vitamin supplement, following these people over time to ensure compliance, and then evaluating the results.



The questionnaire used in the Iowa Women's Health Study is even more unreliable since the supplement portion of the questionnaire was not validated separately. Study questionnaires are typically validated to help ensure that the questions actually assess what they are intending to.

The purpose of "validating" a questionnaire is to confirm or establish its accuracy or soundness. The supplement portion of this questionnaire was <u>not</u> validated, meaning they did not validate that the supplement questions accurately assessed supplement use.

The authors tried to justify this by explaining "an evaluation with similar instruments" was validated; however, "similar" is not the same as this supplement questionnaire being validated.

No objective measurements of compliance or non-compliance (such as evaluating blood vitamin levels) with vitamin use were undertaken to confirm if the questionnaires accurately reflected whether people were or were not taking supplements. Iron blood levels would have been especially important to assess since women who took **iron-containing supplements** showed increased mortality.

This failure to validate the supplement portion of the questionnaire is another flaw that could render the **Iowa Women's Health Study's** findings meaningless. How many people do you know who claim to take their nutrients but often skip days?

The Iowa Women's Health Study attempted to assess vitamin/mineral intake over a 22-year period, a significant challenge for even validated questionnaires, let alone one that was not validated to assure who was really taking vitamins/minerals on a regular basis.

This Study Has Nothing to Do With Life Extension Members

Life Extension members do not take low-potency multivitamin formulas spiked with high amounts of **iron** and **copper**. This recipe for a shorter life span was identified decades ago.

Life Extension members do regularly ingest omega-3 fatty acids, 38-40 curcumin, 41,42 and other nutrients that were not included in the Iowa Women's Health Study questionnaire. Inclusion of omega-3s alone could have resulted in the "supplemented" group achieving a significant reduction in overall mortality.

Life Extension members usually take **high-potency** antioxidant formulas that provide gamma tocopherol (which is critical to balance the effects of alpha tocopherol in the body)43,44 and vitamin K (which works with **vitamin D** to keep calcium in bones where it belongs).45,46

The multivitamin formulas used by Life Extension members contain very little **preformed vitamin A** but lots of vitamin D. Based on consistently strong data showing reduced mortality, most members supplement with even higher amounts of vitamin D.

There are vitamin trade industry groups that view the Iowa Women's Health Study as an attempt to discredit dietary supplements. The reality is that this study has no relationship to what health-conscious people should be doing today to reduce their mortality risk.

If it were not for the many obvious **flaws** contained in the Iowa Women's Health Study, Life Extension could use it as ammunition to validate our recommendations made decades ago that are still overlooked by most of conventional and alternative medicine.

Life Extension still contends that certain commercial multivitamin preparations may be doing more harm than good. To rely on the seriously flawed **Iowa** Women's Health Study to support this position, however, would be hypocritical since it is not even possible to validate which study participants were consistently taking multivitamin/mineral supplements.

Science by Ambush

There's little that can be done to stop tabloid journalism, where the media from time to time proclaims that dietary supplements have no value or are even dangerous.

The Iowa Women's Health Study was initiated 25 years ago and strategically released at a time of year (October 10, 2011) when the public is not overly distracted by other events.



The impact of the blatantly flawed study will be to foster apathy and fear in the public, who are misled to think that taking a simple multivitamin supplement may cause them to die sooner.

This is great news for pharmaceutical interests, of course, since the more that people neglect their health, the greater the demand will be for costly medical interventions.

As Life Extension has done since **1980**, we carefully analyze the underlying facts. We then expose the media's "ambush against science" as a charade to capture attention in a world increasingly comprised of sound-bite hype and devoid of the type of in-depth investigation that we at **Life Extension** thrive on.

Those who rely on media headlines for their health information face enormous risks to their personal mortality, as flawed reports like the **Iowa Women's Health Study** are routinely put on seemingly divine pedestals and then grossly misinterpreted by those who report on them.

Life Extension Foundation® members gain rapid access to comprehensive analyses of published studies that provide scientific guidance to achieving a longer life span. ●

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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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.

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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.

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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

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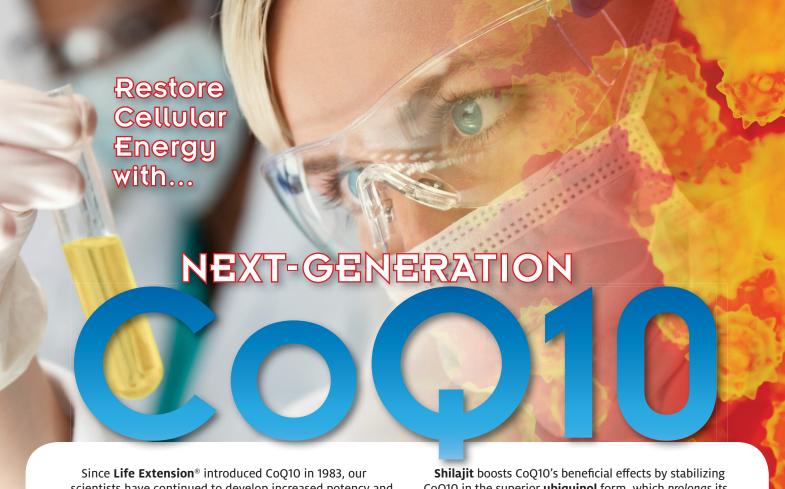
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CAUTION: If you are taking anti-coagulant or anti-platelet medications, or have a bleeding disorder, consult your healthcare provider before taking this product. Contains fish (anchovy, mackerel), sesame, and corn.

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The Optimal Tryptophan Formula!

When **tryptophan** is ingested as a food or supplement, it is naturally **degraded** by specialized <u>enzymes</u> in the body. The problem is that activity of one of these enzymes <u>increases</u> with **age**, thereby denying the brain the **tryptophan** it needs to produce adequate **serotonin**. The result of the <u>excess</u> **degradation** of **tryptophan** can be seen in serotonin-associated troubles, such as:

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- 2) Emotional mood and stress
- 3) Weight gain and appetite
- 4) Loss of feeling of well-being

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dose of **niacinamide** along with extracts from **ginger**, **hops**, and **rosemary**.

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SAFEST TRYPTOPHAN IN THE WORLD!

Life Extension®'s **Optimized TryptoPure™ Plus** formula contains **tryptophan** that is certified <u>pure</u> enough to be used as an active ingredient in pharmaceutical products. This premium-quality tryptophan costs more than other tryptophan raw material as it undergoes significantly more rigorous manufacturing processes to safeguard purity.

Each three-capsule serving provides 1,000 mg of certified pure tryptophan, along with the doses of lysine, niacinamide, and ginger-hops-rosemary extracts needed to protect this precious tryptophan from unwanted degradation in the body. While some people may take two to three capsules all at once before bedtime, others may choose to take one capsule on an empty stomach before each meal.

A bottle containing 90 vegetarian capsules retails for \$40. If a member purchases four bottles, the price is reduced to **\$27 per bottle**.

Each three capsule serving supplies:	
TryptoPure® L-Tryptophan (100% pure USP pharmaceutical-grade L-tryptophan)	1000 mg
L-Lysine (from USP pharmaceutical-grade AjiPure™ L-Lysine HCl)	250 mg
Proprietary TryptoPure® Plus Blend Perluxan® Hops Standardized Extract (Humulus lupulus L.) (cones), Ginger Root Standardized Extract (Zingiber officinale) (rhizome), and Ursole™ Rosemary Standardized Extract (Rosmarinus officinalis) (leaves)	285 mg
Niacin (as Niacinamide)	66 mg

ITEM # 01202



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Contains corn and rice. Take separately from food or supplements containing protein or amino acids, especially arginine.

CAUTION: Serotonin syndrome is characterized by high levels of serotonin and symptoms like confusion, sweating, agitation, nausea, involuntary muscle contractions, and racing heartbeat. Do not take L-tryptophan if you experience these symptoms. Do not take L-tryptophan in combination with other agents that increase serotonin levels in the central nervous system. Agents that increase serotonin levels can include psychiatric medications (e.g. antidepressants, lithium), migraine medications (e.g. sumatriptan), Parkinson's disease medications (e.g. carbidopa), and dextromethorphan, an over-the-counter cough suppressant. Do not use before driving or operating heavy machinery.

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Sample Ingredient Comparison		TENSION ER-DAY	Centrum*
Vitamin C	500	mg	60 mg
Vitamin D	2,000	IU	400 IU
Vitamin B1	75	mg	1.5 mg
Vitamin B2	50	mg	1.7 mg
Vitamin B6	75	mg	2 mg
Vitamin B12	300	mcg	6 mcg
Niacin (as niacinamide)	50	mg	20 mg
Pantothenic acid	100	mg	10 mg
Vitamin E	100	[[(natural)	30 IU (synthetic)
Natural Folate	400	mcg	400 mcg
Zinc	30	mg	11 mg
Selenium	200	mcg	55 mcg
Lutein	5	mg	(none)*
Lycopene	2	mg	(none)*
Biotin	300	mcg	30 mcg
Boron	3	mg	75 mcg
Chromium	200	mcg	35 mcg
Molybdenum	100	mcg	45 mcg
Magnesium	100	mg	50 mg
Manganese	2	mg	2.3 mg
lodine	150	mcg	150 mcg
Potassium	25	mg	80 mg
Vitamin A (preformed)	500	IU	1,015 IU
Vitamin A (as beta-caroten	e) 4,500	IU	2,485 IU
Choline (as bitartrate)	20	mg	(none)
Inositol	50	mg	(none)
PABA	30	mg	(none)
Calcium	12	mg	200 mg
Alpha Lipoic Acid	125	mg	(none)

Contains soybeans, rice, and corn.

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



For many years, Life Extension® members had to rely on commercial "one-a-day" supplements that provide very <u>low</u> potencies.

In response to requests for a science-based multi-nutrient, a special formula was compounded to provide the greatest potencies that can fit into two tablets. When compared to conventional "one-a-day" products, Life Extension Two-Per-Day contains up to 50 times more potency! This Two-Per-Day formula is now available in tablet or capsule form.

The box on this page reveals how much more potent the **Two-Per-Day** formula is compared to the leading commercial multi-vitamin. Few consumers realize that commercial supplements often contain the cheapest form of nutrients that don't provide optimal benefits. For example, the 30 IU of synthetic vitamin E contained in Centrum® may provide relatively little vitamin E to the bloodstream. The 100 IU of natural vitamin E contained in Two-Per-Day provides over **3 times** more vitamin E activity than does Centrum®.





Item # 01615 Tablets

Item # 01614 Capsules

Compared to Centrum®, Two-Per-Day Tablets or Capsules provide about:

- 5 times more Vitamin D
- 8 times more Vitamin C
- 3 times more Vitamin E
- 10 times more Biotin
- 40 times more Boron
- 4 times more Selenium
- 37 times more Vitamin B6
- 50 times more Vitamin B1
- 50 times more Vitamin B12
- More than <u>twice</u> as much niacin, zinc, and many other nutrients

Life Extension Two-Per-Day Vegetarian Tablets provide much higher potencies of key nutrients and represent a better value than many commercial brands. A bottle of 120 Life Extension Two-Per-Day <u>tablets</u> retails for \$20. If a member buys four bottles, the price is reduced to \$13.50 per bottle. (The retail price for 180 tablets of Centrum® is around \$14.) (Item # 01615)

A bottle of 120 Life Extension Two-Per-Day <u>capsules</u> retails for \$22. If a member buys four bottles, the price is reduced to \$15. (Item # 01614)

 $[\]hbox{* Centrum$^\circ$ no longer contains significant amounts of lycopene nor lute in.}$



How Resveratrol Combats Leading Causes of Death

BY BRIAN VOGELMAN

In **1997**, the first scientific paper on **resveratrol** was published showing that this polyphenol could prevent **cancer** in experimental models.¹

Since then, researchers have documented **resveratrol's** ability to favorably modulate multiple processes associated with degenerative disease, from **atherosclerosis** to **obesity**.

What had been *lacking* was a systematic, comprehensive overview of the available data to determine the underlying mechanisms by which resveratrol exerts its anti-aging effect.

Until now!

In 2011, the findings of the 2010 Resveratrol Conference² held in Denmark were published. Its primary objective was to examine the totality of the evidence for resveratrol's disease-preventing role in aging humans. Nearly 3,700 published studies were analyzed.

In this article, you will discover the *12 mechanisms of action* these experts identified by which resveratrol acts to combat the killer diseases of aging and <u>delay</u> the aging process itself.

You will also learn of the latest data on resveratrol's multimodal power to protect cells, tissues, and organ systems against five leading causes of death among Americans, including **heart disease**, **cancer**, and **diabetes**.>>

The participating scientists at the 2010 conference covered a broad range of research on the biological effects of resveratrol. Since 1997, roughly 3,650 studies on resveratrol have been published, all of which were reviewed

Based on the most encouraging data, they focused specifically on resveratrol's capacity to favorably modulate factors involved in cancer, heart disease, neurodegeneration, systemic inflammation, obesity, and diabetes.1,2

Out of this extensive analysis they isolated 12 mechanisms by which resveratrol exerts its anti-aging, disease-preventing effects (See table 1).

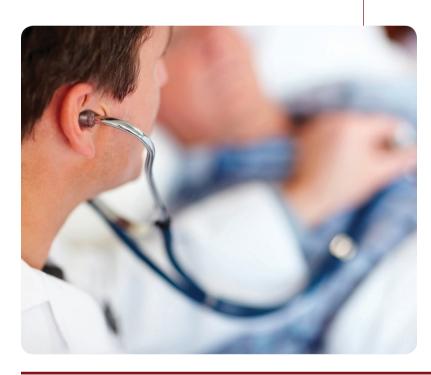
A thorough review of the literature was then undertaken to identify their relevance in onset of various forms of degenerative disease.

They found confirmatory evidence of resveratrol's preventive role in five of the leading causes of death in maturing Americans (See table 2).

Heart Disease

America's number one killer is heart disease, which includes the conditions atherosclerosis, hypertension, heart attack, and heart failure.^{2,3} Resveratrol is known to reduce risks for all of these conditions by targeting multiple factors that set the stage for cardiovascular diseases.2

Recent studies confirm that a central mechanism of resveratrol's activity is to mimic the biological effects of *calorie restriction*, which is known to extend life span in virtually all living organisms.⁴



Resveratrol helps to combat high blood pressure (hypertension) by a variety of mechanisms. It decreases inflammatory cell infiltration into blood vessel walls and improves those vessels' ability to respond to changes in blood pressure.⁵ In addition, resveratrol has recently been shown to reduce the unfavorable remodeling and stiffening of blood vessels and heart muscle that results from sustained hypertension.⁵ Resveratrol also acts in the brainstem to reverse increases in blood pressure that are triggered by a variety of dietary and hormonal factors.6

Studies published in 2011 show that resveratrol helps mitigate the cholesterol elevations that result from obesity and a high-fat diet by *directly regulating* expression of genes that control lipid metabolism.⁷ Exposure to resveratrol triggers correction of abnormal fatty acid utilization, by inducing mitochondrial enzymes that help break down fat molecules.8 And in pigs with the equivalent of human metabolic syndrome, resveratrol supplementation lowered body mass indices, serum cholesterol, the inflammatory marker C-reactive protein, improved glucose tolerance and endothelial function.9

In the presence of sustained hypertension and/or elevated cholesterol and other fats, damage occurs to the delicate, reactive cells lining capillaries, known as endothelial cells. Endothelial dysfunction is a major contributor to heart attacks, strokes, and heart failure, and is an important target of cardiovascular disease prevention. New data show that resveratrol reduces the effects of both hypertension on endothelial cells and inhibits signs of endothelial dysfunction.¹⁰

> Build-up of calcium in arteries is a major contributor to arterial stiffening and blockage that occurs fairly late in atherosclerosis.11 It also contributes to the inflammatory changes that exacerbate cardiovascular disease.12 Arterial calcification was formerly thought to be caused by passive accumulation of calcium, similar to mineral deposits in pipes. It is now known to be an active process whereby arterial cells "turn into" bone-forming cells as a result of age- and inflammation-induced genetic changes. Certain drugs, such as the now-withdrawn antidiabetic drug Avandia® (rosiglitazone), can hasten this destructive process.¹³ New data demonstrate that resveratrol slows or reverses the process by which arterial cells become "bone-like," reducing the amount and extent of calcium build-up in arterial walls.11,13 Resveratrol limits the inflammation-inducing effects of calcium in cells lining blood vessels.12

In addition to elevated fat and calcium content in vessel walls, aggregation of clot-forming platelets contributes to arterial blockages resulting in heart attacks. strokes, and other cardiovascular events. New data now show that resveratrol inhibits the platelet aggregation that can trigger formation of a deadly blood clot.14

When an artery in the heart becomes blocked, blood flow to the heart is restricted, causing ischemic damage. Restoration of blood flow (reperfusion) makes matters worse, at first, by flooding the damaged tissue with oxygen free radicals. Sophisticated molecular probes have now revealed that resveratrol leaves a unique "footprint" in heart muscle that has been subjected to ischemia/reperfusion injury. 15 The result is a considerable reduction in death (apoptosis) of cardiac cells following such an injury, and improved cardiovascular function.16

Resveratrol's calorie restriction-mimicking effects directly improve mitochondrial function in energyintensive heart muscle cells, making them beat more effectively and reducing their vulnerability to oxidative stress.4 Furthermore, we now understand that resveratrol produces cardioprotective effects in heart muscle cells that do undergo the massive oxidant stress of a heart attack or a serious infection.¹⁷

Cancer

More than half a million Americans die of cancer each vear, despite considerable strides in our understanding of the disease.¹⁸ The very first scientific study of resveratrol showed a preventive effect on skin can*cer*. and since that time more than **1,100 papers** have been published on the subject of cancers in general.² Today's experts refer to resveratrol as "a promising natural weapon in the war against cancer."19

Breaking news since the 2010 Resveratrol **Conference** shows that resveratrol fights cancer on multiple levels.²⁰ The following is a summary of the latest on resveratrol and cancer prevention.

Resveratrol can prevent dangerous DNA "adducts," modified stretches of DNA that, un-repaired, can trigger a cell to become cancerous in the step known as cancer initiation.21

Once initiated, cancers grow by proliferation of abnormal cells. Resveratrol is a modest anti-pro*liferative agent*, as new data show. Consumption of resveratrol by human colon cancer patients reduced tumor cell proliferation by 5% at a dose of 500 to 1,000 mg daily for 8 days prior to surgery.²² And resveratrol inhibits an important cancer cell signaling pathway called STAT3, further reducing cancerous proliferation, as was recently shown in certain **brain** cancer cells.23



Resveratrol

- A recent international conference devoted to the subject of resveratrol found that this natural polyphenol has 12 key mechanisms of action, each of which contributes to reduction in the impact of factors contributing to premature death.
- Five of the leading causes of death may be prevented or mitigated by resveratrol supplementation, including heart disease, cancer, stroke, Alzheimer's disease, and diabetes.
- Resveratrol's ability to modulate 5 leading causes of death, along with its longevitypromoting effects, makes it an important part of every wellness program.

The body naturally controls cancer growth through the process of *apoptosis*, by which cancer cells are triggered to die off. Proper apoptosis requires activation of important "suicide" genes found in all cancer cells. Resveratrol has recently been found to increase expression and activation of one important "suicide" pathway known as p53.²⁴

Insulin-like growth factor I (IGF-1) is important in growth and healing, but it also promotes cancer propagation once a malignancy has been initiated. A new human study showed that dosing with resveratrol at 2.5 grams/day (which is much higher than currently recommended) caused a significant decrease in circulating levels of IGF-1 and its binding protein, suggesting that suppression of IGF-1 may be involved in one of resveratrol's anti-cancer mechanisms.25

Many carcinogens enter the body as "safe" compounds, but become *modified* by enzyme systems in the liver to trigger cancer. Interestingly, liver enzymes are responsible for detoxifying active carcinogens before they can cause harm. *Resveratrol has recently been shown to favorably modulate* both classes of enzymes, reduc-

ing activation of potential carcinogens while actively detoxifying known carcinogenic molecules.²⁶

Inflammation is now widely recognized as a cancer-promoting event. New evidence shows how *resveratrol reduces production of inflammatory molecules* such as leukotrienes by inhibiting the enzymes that produce them.^{27,28} Inflammation is also important in promoting cancer spread, or *metastasis*. In a 2011 study, resveratrol remarkably inhibited invasion and spread of melanoma cells by up to **75**%.²⁰

A class of tiny strands of material called RNA, known as microRNAs, is known to regulate cancer cell growth and development. In new research, resveratrol shows the ability to modify the microRNA content of cells, up-regulating cancer-suppressing microRNAs, while down-regulating cancer-promoting ones.²⁹⁻³¹

Table 1: Resveratrol's 12 Key Anti-Aging Mechanisms²

Mechanism	Diseases or Conditions Affected
Modulation of oxidation/ antioxidant status	All chronic disease
Suppression of inflammation	All chronic disease
 Mitochondrial protection Suppression of fat cell formation and stimulation of fat breakdown 	Obesity, diabetes, cardiovascular disease
 Modulation of cell proliferation and apoptosis (programmed cell death) Inhibition of metastasis Modulation of angiogenesis (blood vessel formation) Modulation of DNA damage Modulation of foreign molecule and toxin metabolism 	Cancer
Modulation of glutamate (excitatory neurotransmitter) metabolism	Neurodegenerative diseases
Estrogenic activity/ anti-estrogenic activity	Multiple hormone- dependent cancers
Stimulation of bone formation	Bone health and osteoporosis

Resveratrol targets 12 key mechanisms to combat chronic, age-related diseases, including those that comprise the primary contributing factors to the leading causes of death.

As tumors grow, they stimulate new blood vessel growth to support their ravenous needs for nutrients. Inhibiting this process, known as *angiogenesis*, has become a major target of cancer prevention and treatment. Resveratrol, in recent studies, has been shown to stimulate new blood vessels in healthy tissue, but to inhibit their growth in malignant melanoma cell cultures as well as in whole tumors.^{32,33}

All of this means resveratrol is reaching the level of large-scale clinical trials by mainstream physicians. Phase I, "dose-finding" studies have now been completed that validate resveratrol's safety even at very high levels of up to 5 grams (this does not mean people should take this high dose yet).^{25,34}

Stroke

Strokes are caused by many of the same vascular changes that trigger heart attacks: atherosclerosis, plaque formation, and ultimately blood vessel occlusion that deprive brain tissue of vital blood flow. In addition, aging and certain conditions like diabetes cause brain blood vessels to lose their ability to dilate and increase blood flow as needed, exacerbating damage caused during a stroke. When blood flow is restored after the acute blood vessel blockage is resolved, oxygen free radicals occur abundantly and cause the final destruction of brain tissue. That process is known as ischemia/reperfusion injury.

Resveratrol protects brain tissue from ischemia/ reperfusion injury, according to a host of recentlyreleased studies.35 Researchers at Johns Hopkins showed that resveratrol induces production of the enzyme heme oxygenase, which is protective against oxidative stress.^{36,37} Furthermore, resveratrol protects vulnerable mitochondria during ischemia/reperfusion injury, allowing them to continue their important job of providing cells with energy.³⁸

During the acute phase of a stroke, excitatory neurotransmitters such as glutamate are released in large amounts.³⁹ This release then triggers acute and chronic damage to brain cells. Researchers have now shown that resveratrol significantly prevents dangerous glutamate release following a stroke.³⁹

Finally, new data show that treating diabetic animals with resveratrol restores the responsiveness of their brain arteries to blood flow variations. 40 That allows them to re-direct blood flow to vital areas blocked by the stroke.

The combined effect of these mechanisms is to reduce the size of a stroke significantly.⁴¹ Remarkably, this protection even occurs when resveratrol is given up to 6 hours *after* the stroke begins. 41 Some experts are now hailing that discovery as evidence that resveratrol may be a potent new drug for use in treatment of acute ischemic stroke.⁴¹ Nonetheless, the strongest and most recent evidence suggests that resveratrol used regularly in advance of a stroke provides the best tolerance to an ischemic event if and when one should arise.42,43

Condition	Mechanism(s)
Heart disease	Reduces incidence of hypertension, heart failure, ischemia (loss of blood flow)
Cancer	Chemoprevention
Stroke	Reduces incidence of hypertension, ischemia, neuroprotective
Neurodegenerative diseases (e.g., Alzheimer's, Parkinson's), brain injury	Neuroprotective
Diabetes (and obesity)	Improves insulin sensitivity, reduces blood glucose levels, reduces high-fat diet-induced obesity and visceral (abdominal) fat

Alzheimer's Disease

Nearly 75,000 Americans die annually from Alzheimer's disease, and more than 230,000 others suffer dementia severe enough to require nursing home care.44 Recent studies suggest that resveratrol holds promise in reducing the risk of Alzheimer's disease and stroke.⁴⁵ New science reveals in great detail how resveratrol acts through activation of the "longevity gene" SIRT-1, which triggers many favorable events that may help prevent Alzheimer's and other neurodegenerative diseases. 35,46-48

Much of resveratrol's neuroprotection arises from its ability to interfere in the cascade of events caused by accumulation of abnormal proteins known as amyloid-beta. 49 Amyloid-beta triggers oxidative stress and inflammation that directly damages brain cells. especially in memory centers of the brain. That's why Alzheimer's patients have such profound and progressive memory loss.

Resveratrol inhibits amyloid-beta toxicity at multiple points in the cascade. 49 Resveratrol acts as a powerful antioxidant, scavenging oxygen free radicals and inducing protective enzymes such as heme oxygenase. 36,50 Two recent studies demonstrated that the addition of melatonin synergistically enhances resveratrol's neuroprotective effects. 45,51

New data also show that resveratrol can prevent amyloid-beta molecules from clumping together into damaging *oligomers*, or small collections of individ-



ual molecules. 48,52 That action significantly prevents amyloid-beta damage. Exciting new studies also show that resveratrol can remodel existing oligomers into non-toxic forms.53

Studies released in 2010 revealed that, by activating specific intracellular signaling pathways, resveratrol can reduce toxicity caused by the excitatory neurotransmitter glutamate.⁵⁴ Glutamate toxicity is thought to be a major trigger for Alzheimer's disease symptoms.

An intriguing study published in late 2010 demonstrated that, by protecting brain mitochondria, the combination of resveratrol and mitochondria-targeted antioxidants could restore normal function in an experimental model of Alzheimer's. 55 That effect in turn produced new outgrowth of the tiny intercellular connections known as neurites, which are damaged or lost in Alzheimer's and other neurodegenerative diseases.55

Finally, an important recent study showed that orally administered resveratrol achieves effective concentrations in brain tissue, meaning it crosses the blood-brain barrier that keeps so many other potentially beneficial compounds out. This finding has important implications for future research into resveratrol's role in protection against neurodegenerative disease.56

Diabetes

Diabetes is one of the most preventable chronic conditions known. It kills more than 70,000 Americans annually, and its complications impair function in hundreds of thousands more.3 Overweight and obesity, conditions that cause many cases of diabetes, now occur in nearly 70% of Americans, and contribute to untold numbers of additional untimely deaths.⁵⁷ Resveratrol's actions have been shown to protect against the development and consequences of this deadly condition.

High blood sugar, both chronically and acutely following a meal, exerts massive oxidative stress on body proteins, ultimately changing their structure and inducing inflammation. It's these changes that produce diabetic complications. New studies show that resveratrol, by activating the important SIRT-1 system, inhibits cellular oxidative stress and resulting inflammation in diabetes.58,59

Resveratrol improves insulin sensitivity through its effects on SIRT-1.58,60 New, highly detailed data reveal that these benefits arise from resveratrol's ability to stimulate metabolic sensing pathways in cells that allow them to use insulin and glucose more effectively. helping to reduce blood sugar levels.⁶¹

Glucose-damaged blood vessels lose their ability to regulate blood flow in brain and heart tissue, contributing to heart attack and stroke damage. Chronic resveratrol treatment has recently been found to restore blood vessel responsiveness in diabetic animals.40

As a result of these basic mechanisms, resveratrol is showing promise in protecting against virtually all forms of diabetic complications. Resveratrol may be beneficial in treating or preventing diabetic foot syndrome, a devastating loss of nerve function and blood flow that results in thousands of amputations annually.62 Resveratrol treatment retarded progression of diabetic kidney disease through modulation of oxidative stress and inflammation in a 2011 animal study.⁶³ Muscle wasting and deranged lipid metabolism are common in diabetes; resveratrol ameliorated both issues in one recent study.⁶⁴ Abnormal blood vessel leakiness is a major cause of diabetic eve disease, a condition that can now be blocked by resveratrol treatment in an animal model of early diabetes.65

Summary

A 2010 international conference found that resveratrol operates via twelve key mechanisms to combat five of the ten leading age-related causes of death in the US.

Studies released since that time further clarify and amplify the power of resveratrol to prevent, and in some cases reverse, the biological changes associated with chronic disease and aging. Compelling evidence is now available for resveratrol's ability to favorably modulate factors implicated in the onset of heart disease, cancer, stroke, Alzheimer's disease, and diabetes.

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

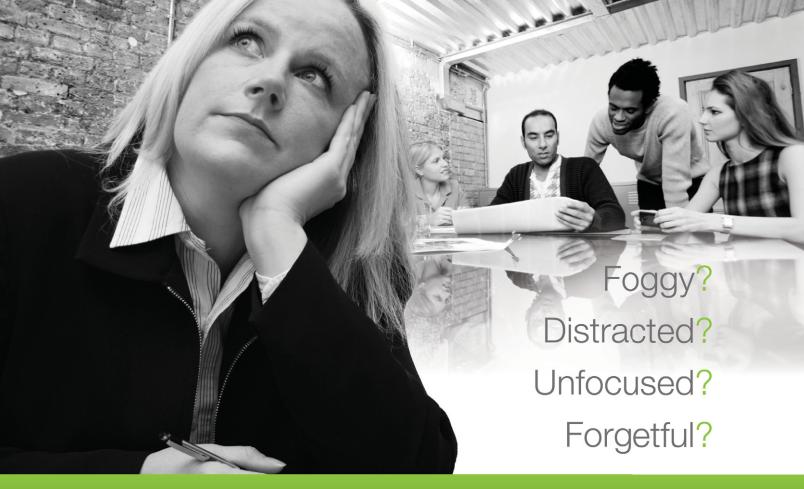
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THIERRY HERTOGHE, MD Endocrinology Expert



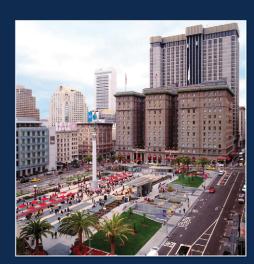
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Advanced RESVERATROL Formula

In 2003, the Life Extension Foundation® introduced a standardized **resveratrol** extract shown to favorably alter genes implicated in the aging process—many of the <u>same</u> 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 veast.

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

RESVERATROL Synergistic Grape-Berry Actives 250 mg

AGELESS BEAUTY COLLECTION

"Think of it as cosmetic solutions without surgery."

These anti-aging solutions will have you looking YOUNGER and more BRILLIANT with time!



ULTRA WRINKLE RELAXER

This serum uses a safe, non-toxic hexapeptide in combination with a blend of concentrated tea extracts to lessen the appearance of wrinkles and promote the appearance of smooth skin, especially on the forehead.

A 1 oz bottle of **Ultra Wrinkle Relaxer** retails for \$89.95. If a member buys two bottles, the cost is just **\$59.82 each**. Item#80101

Windle Relaxer Windle Relaxer Windle Relaxer Wildersteinstor

LIFTING & TIGHTENING COMPLEX

Lift and tighten the skin on your face, neck, and décolletage for six to eight hours or more. This remarkable formulation uses several natural agents to minimize the appearance of creases and lines, promote the appearance of smooth skin, and help lessen visible signs of aging. Best of all the results are visible in minutes... and will last until you

A 1 oz tube of **Lifting & Tightening Complex** retails for \$74.50. If a member buys two bottles, the cost is just **\$49.17 each**. Item#80103

wash it off!



SKIN STEM CELL SERUM

This innovative stem cell serum helps combat and delay the chronological aging and senescence of essential cells. It also helps protect and preserve the youthful look and vitality of your skin.



A 1 oz bottle of **Skin Stem Cell Serum** retails for \$74. If a member buys two bottles, the cost is just **\$51.75 each**. Item# 80130

UNDER EYE REFINING SERUM

This cutting edge eye serum smoothes and softens skin, and helps minimize under-eye puffiness and darkness. An active complex of soy and rice peptides helps your skin retain its natural firmness and minimize puffiness.





To order any COSMESIS® skin care products, call 1-800-544-4440 or visit www.LifeExtension.com





FACE REJUVENATING ANTIOXIDANT CREAM

This remarkable cream has been specifically formulated with potent antioxidants, vitamins, tea extracts, and powerful anti-aging ingredients to help minimize the appearance of dry, dehydrated, environmentally damaged skin on the face. Continual use may lessen the appearance of unwanted creases, pigmentation, and freckling.

A 2 oz jar of **Face Rejuvenating Antioxidant Cream** retails for \$69.50. If a member buys two jars, the cost is just **\$45.87 each**.
Item#80123



ANTIOXIDANT

"There's a special formula to rejuvenate you... all over."

Damaging Free radicals do not stand a chance against these innovative formulas loaded with skin saving antioxidants.

Nurturing Your Natural Beauty...

NECK REJUVENATING ANTIOXIDANT CREAM

Loaded with potent antioxidants, peptides, vitamins, tea extracts, and powerful anti-aging ingredients, this unique formula can help your neck look younger and more graceful. So put away that turtleneck and unbutton your collar! *Minimize the appearance of creased, thin, sagging (or loose), and discolored skin on your neck.*

A 2 oz jar of **Neck Rejuvenating Antioxidant Cream** retails for \$64. If a member buys two jars, the cost is just **\$42.24 each**. Item#80122



ANTIOXIDANT REJUVENATING HAND CREAM

This cream helps improve the appearance of unwanted pigmentation, discoloration and age spots – and minimizes the appearance of dehydrated skin and prominent veins on the back of hands. Your hands will look younger, smoother, and more pampered.

A 2 oz jar of **Antioxidant Rejuvenating Hand Cream** retails for \$64. If a member buys two jars, the cost is just **\$43.12 each**. Item#80117



REJUVENATING SERUM

Rejuvenating Serum is primarily comprised of a concentrated antioxidant tea blend extract and hyaluronic acid, to hydrate, moisturize, and ease the look of lackluster skin.







IS IT LOW T?

FIND OUT! TAKE THE TEST!

PLEASE ANSWER YES OR NO	YES	NO
1. DO YOU HAVE A DECREASE IN LIBIDO (SEX DRIVE)?		
2. DO YOU HAVE A LACK OF ENERGY?		
3. DO YOU HAVE A DECREASE IN STRENGTH AND/OR ENDURANCE?		
4. HAVE YOU LOST HEIGHT?		
5. HAVE YOU NOTICED A DECREASED "ENJOYMENT OF LIFE"?		
6. ARE YOU SAD AND/OR GRUMPY?		
7. ARE YOUR ERECTIONS LESS STRONG?		
8. HAVE YOU NOTICED A RECENT DETERIORATION IN YOUR ABILITY TO PLAY SPORTS?		
9. ARE YOU FALLING ASLEEP AFTER DINNER?		
10. HAS THERE BEEN A RECENT DETERIORATION IN YOUR WORK PERFORMANCE?		

The above ADAM* questionnaire was developed by John E. Morley, M.B., B.Ch. It is to be used solely as a screening tool to assist a physician in diagnosing androgen (testosterone) deficiency. *Androgen Deficiency in the Aging Male.

IF YOU HAVE ANSWERED YES TO #1, #7, OR ANY THREE OTHERS, YOU MAY HAVE SYMPTOMS ASSOCIATED WITH LOW TESTOSTERONE.

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BY JON FINKEL

A First Rate Nutritional Destination, a Staff Second to None

The brand new Life Extension Nutrition Center in Fort Lauderdale. Florida, was created to provide innovative anti-aging and wellness services under one roof. The Nutrition Center offers, in one location, a complete vitamin store, full-service pharmacy, knowledgeable health advisors, reference library, and blood lab. Above all, the Life Extension® philosophy of science-based health and longevity protocols permeates all services and products offered at the Nutrition Center.

Expert Staff

While commercial vitamin stores and pharmacies are notorious for their take-a-number, one-size-fits-all customer philosophy and lack of helpful expertise, the Life Extension Nutrition Center prides itself in being the opposite. With a staff of highly trained health advisors, any customer can set up an appointment to discuss specific questions and concerns about their health. This unique, one-on-one relationship is crucial to the success of any anti-aging regimen. Unlike a traditional pharmacy, a customer won't be handed a bottle or pill container and told to simply "read the label." Life Extension pharmacists are trained to advise customers about complementary nutritional strategies that allow them to achieve maximum benefit from their health care.

NUTRITION CENTER

Blood Lab Access

After customers discuss their health goals with an advisor, they may want to have their blood tested to find out if they have any crucial hormone, vitamin, or mineral deficiencies they should be aware of. Life Extension advocates regular blood testing as one of the most important preventive actions you can take to anticipate and ward off the diseases of aging. Additionally, Life Extension offers a range of blood labs that are often not available at your general doctor's office. Customers can have their blood drawn right there on the premises. The results will then be mailed directly to a customer's house, where they have the option of speaking to their own health care provider, calling an advisor to discuss the results over the phone, or they can bring their results into the store to talk about them in person.

The Forefront of Research

The Nutrition Center offers a nutrition library, where customers can peruse or purchase the latest anti-aging books from national bestselling health authors. Furthering the research philosophy, the Nutrition Center is also host to a monthly lecture series. Recent topics have included: "Breast Cancer Awareness and Prevention" and "Blood Sugar Control."

The nutrition center is also home to cutting-edge clinical trials that customers who qualify are allowed to participate in. These trials often have far-reaching anti-

aging research.



LIFE EXTENSION NUTRITION CENTER



has MOVED to the following location:

5990 North Federal Highway Fort Lauderdale, FL 33308 Phone: 954-766-8144

Our Brand New Nutrition Center and Full Service Discount Pharmacy Includes:

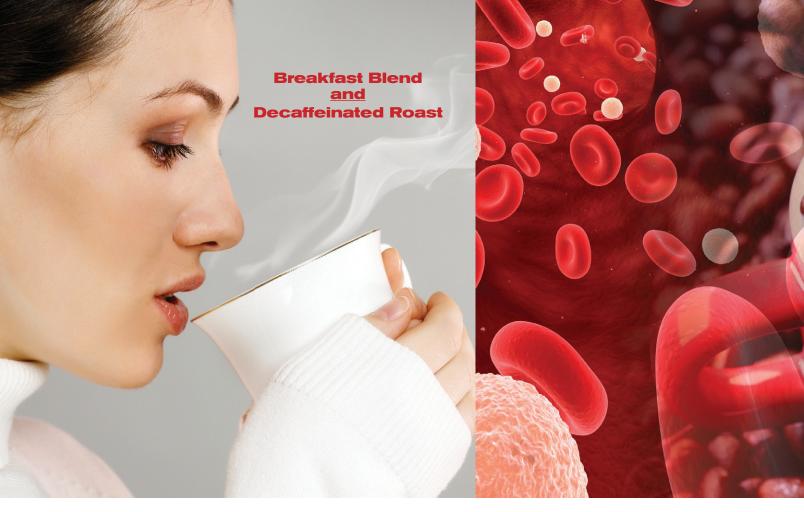
- Full Range of Life Extension Nutritional **Products**
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And much, much more!

Visit our New Location Today!







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 <u>full</u> 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 <u>complete</u> 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 <u>Conventional Coffee</u> to Life Extension's Rich Rewards Blend

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

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 <u>also</u> 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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* 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



em # 0161

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



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

Five Easy Steps:

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

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

For Our Local Members:

For those residing in the Ft. Lauderdale, Florida area, blood-draws are also performed at the Life Extension Nutrition Center from 9:00 am to 2:00 pm Monday through Saturday. Simply purchase the blood test and have it drawn with no wait! Our address is 5990 North Federal Highway. Ft. Lauderdale, FL, 33308-2633.

Blood Testing The Ultimate Information

MOST POPULAR PANELS

Life Extension Member Pricing

COMPREHENSIVE PANELS **MALE LIFE EXTENSION PANEL (LC322582)** \$269 CBC/Chemistry Profile DHEA-S Homocysteine TSH for thyroid function Free Testosterone Total Testosterone Estradiol PSA (prostate-specific antigen) C-Reactive Protein (high-sensitivity) **FEMALE LIFE EXTENSION PANEL (LC322535)**

CBC/Chemistry Profile DHEA-S Estradiol Homocysteine TSH for thyroid function Progesterone Free Testosterone Total Testosterone C-Reactive Protein (high sensitivity)

MALE WEIGHT LOSS PANEL (LCWLM)* \$299 CBC/Chemistry Profile DHEA-S Insulin PSA Free Testosterone (prostate-specific antigen) Estradiol Total Testosterone Free T3

Free T4

(high sensitivity) SHRG FEMALE WEIGHT LOSS PANEL (LCWLF)* \$299 CBC/Chemistry Profile DHEA-S Progesterone Insulin Free Testosterone Total Testosterone Estradiol TSH Free T3 Free T4 C-Reactive Protein SHBG

C-Reactive Protein

(high sensitivity)

MALE HORMONE ADD-ON PANEL (LCADDM)* Pregnenolone and Dihydrotestosterone (DHT) To provide an even more in-depth analysis of a man's hormone status, Life Extension has created this panel as an addition to the Male Life Extension Panel. This panel provides valuable information about a testosterone metabolite that can affect the prostate, and the mother hormone that acts as a precursor to all other hormones.

FEMALE HORMONE ADD-ON PANEL (LCADDF)* \$125 Pregnenolone and Total Estrogens To provide an even more in-depth analysis of a woman's hormone status, Life Extension has created this panel as an addition to the Female Life Extension Panel, This panel provides valuable information about total estrogen status, and the mother hormone that acts as a precursor to all other hormones.

LIFE EXTENSION THYROID PANEL (LC304131) TSH, T4, Free T3, Free T4.

MALE HORMONE RE-TEST PROFILE (LCRTM)* \$275 CBC/Chemistry Profile, DHEA-S, Dihydrotestosterone (DHT), Estradiol, PSA, Pregnenolone, Total and Free Testosterone, and TSH. Continual monitoring of hormone levels is necessary for men seeking to maintain optimal blood level values.

FEMALE HORMONE RE-TEST PROFILE (LCRTF)* \$250 CBC/Chemistry Profile, DHEA-S, Total Estrogen, Pregnenolone, Total and Free Testosterone, Progesterone, and TSH, Continual monitoring of hormone levels is necessary for women seeking to maintain optimal blood level values.

THE CBC/CHEMISTRY PROFILE (LC381822) \$35 OVER 40 PARAMETERS TESTED CARDIOVASCULAR RISK PROFILE Total Cholesterol Cholesterol/HDL Ratio **HDL Cholesterol** Estimated CHD Risk LDL Cholesterol Glucose Triglycerides Iron LIVER FUNCTION PANEL AST (SGOT) Total Bilirubin ALT (SGPT) Alkaline Phosphatase IDH KIDNEY FUNCTION PANEL **BUN/Creatinine Ratio** BUN Creatinine Uric Acid BLOOD PROTEIN LEVELS Total Protein Globulin Albumin/Globulin Ratio Albumin BLOOD COUNT/RED AND WHITE BLOOD **CELL PROFILE** Red Blood Cell Count Monocytes White Blood Cell Count Lymphocytes Eosinophils Platelet Count Basophils Hemoglobin Polys (Absolute) Hematocrit Lymphs (Absolute) MCV Monocytes (Absolute) MCH Eos (Absolute) MCHC Baso (Absolute) Polynucleated Cells RDW BLOOD MINERAL PANEL Calcium Sodium

Iron NOTE: CBC/Chemistry profile is included in the Male and Female Life Extension panels and Weight Loss Panels.

Chloride

Potassium

Phosphorus

GENERAL HEALTH HEMOGLOBIN A1C (HBA1C) (LC001453) 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.

VITAMIN D (250H) (LC081950) This test is used to rule out vitamin D deficiency as a cause of bone disease. It can also be used to identify hypercalcemia.

FOOD SAFE ALLERGY TEST (LCM73001) \$174 This test measures delayed (IgG) food allergies for 95 common foods. NEW

\$47

\$25

\$131.25

GLUCOSE, TWO-HOUR POSTPRANDIAL (LC002022) 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.

OMEGA SCORE™** (LCOMEGA) Provides valuable information on your risk of developing heart disease, sudden heart attack, and cardiac death. The Omega ScoreTM also includes your AA:EPA ratio, allowing you to determine and track a major factor in total body inflammation.

COQ10* (COENZYME Q10) (LC120251) \$145 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.

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.

\$75

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



MOST POPULAR SINGLE TESTS

Life Extension Member Pricing

HORMONES CORTISOL (LC004051) This test is to measure adrenal function.	\$39
ADRENOCORTICOTROPIC HORMONE (ACTH)* (LC004440) A pituitary function test useful in evaluating adrenocortical dysfunction.	\$91.50
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
DIHYDROTESTOSTERONE (DHT)* (LC500142) Measures serum concentrations of DHT.	\$99
ESTRADIOL (LC004515) For men and women. Determines the proper amount in the body.	\$33
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 ve
INSULIN FASTING* (LC004333) Can predict those at risk of diabetes, obesity, and heart and other diseases.	\$42
PREGNENOLONE* (LC140707) Used to determine ovarian failure, hirsutism, adrenal carcinoma, and Cushing's syndrome.	\$116
PROGESTERONE (LC004317) Primarily for women. Determines the proper amount in the body.	\$55
SEX HORMONE BINDING GLOBULIN (SHBG) (LC082016) This test is used to monitor SHBG levels which are under the positive control of estrogens and thyroid hormones, and suppressed by androge	i
SOMATOMEDIN C (IGF-1) (LC010363) Indicates growth hormone secretion levels. Lov levels have been associated with atherosclero as well as all-cause mortality.	
TOTAL AND FREE TESTOSTERONE (LC140103) Determines whether testosterone replacement should be considered as a therapy for depress abdominal obesity, low energy, poor mental performance, or loss of libido.	\$99 ion,
Blood tests available only in the continental United States.	

For non-member prices

call 1-800-208-3444

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. **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. **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. FIBRINOGEN* (LC001610) High levels of this blood-clotting factor increase the risk of heart attack and stroke. **HOMOCYSTEINE (LC706994)** Can indicate if you are likely to have a heart attack

or stroke. Even if you take folic acid, you still may have dangerously high levels of this artery-clotting metabolic debris that can be lowered with high doses of TMG and vitamin B6. VAPTM 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. MALE HEALTH PSA (PROSTATE-SPECIFIC ANTIGEN) \$31 (LC010322) Can provide an early warning sign for prostate disorders and possible cancer.

FREE-PSA (INCLUDES TOTAL PSA)* (LC480780) Recommended to determine if an elevated PSA is indicative of prostate cancer.

BONE HEALTH OSTEOCALCIN* (LC010249) \$91

Osteocalcin is often used as a biochemical marker, or biomarker, for the bone formation process. It has been routinely observed that higher serum osteocalcin levels are relatively well correlated with bone diseases characterized by increased bone turnover, especially osteoporosis.

DPD CROSS LINK URINE TEST (LC511105) The deoxypyridinoline (DPD) urine test can be used to measure bone re-absorption rates in healthy individuals and in those with enhanced risk of developing metabolic bone diseases. Deoxypyridinoline can be used to monitor therapies (which may include bisphosphonate drugs) in people diagnosed with osteoporosis.

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

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TERMS AND CONDITIONS

\$125

\$42

\$31

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LifeExtension

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Products

AMINO ACIDS
Acetyl-L-Carnitine
Acetyl-L-Carnitine-Arginate Branched Chain Amino Acids

D, L-Phenylalanine Capsules

GABA Powder Glycine Capsules Glycine Powder

L-Árginine Capsules

L-Arginine Free Base Powder Arginine/L-Ornithine Capsules

L-Carnitine Capsules

L-Glutathione, L-Cysteine & C

L-Glutamine Capsules
L-Glutamine Powder
L-Lysine Capsules
L-Lysine Powder
L-Tyrosine Tablets

Mega L-Glutathione Capsules N-Acetyl-L-Cysteine Capsules

Optimized Carnitine with GlycoCarn®

PharmaGABA

Super Carnosine Capsules

Taurine Capsules

Tryptopure® Tryptophan (Optimized) Tryptopure® Plus

BONE & JOINT HEALTH

ArthroMax[™] with Theaflavins and AprèsFlex[™] ArthroMax[™] Advanced with UC-II[®] and AprèsFlex[™]

Bone-Up™

Bone Restore™

Bone Strength Formula w/KoAct™

Chondroitin Sulfate

Chondrox

Fast Acting Joint Formula

Glucosamine Chondroitin Capsules

BRAIN HEALTH

Acetyl-L-Carnitine

Acetyl-L-Carnitine-Arginate

CDP Choline Capsules
Cognitex® with NeuroProtection Complex

Cognitex® with Pregnenolone & NeuroProtection Complex

Cognitex® Basics

Ginkgo Biloba Certified Extract™ Huperzine A Lecithin with B5 and BHA

Lecithin Granules

Methylcobalamin Lozenges Neuro-Mag™ Magnesium L-Threonate Optimized Ashwagandha Extract

Phosphatidylserine Capsules

Rhodiola Extract

Super Ginkgo Extract

Vinpocetine

DIGESTIVE

Bromelain Powder

Carnosoothe w/PicroProtect

Daily Ginger® Digest RC™

Enhanced Super Digestive Enzymes

Florastor

Intact Digest

Life Flora™ Natural EsophaGuard

Pancreatin Primal Defense™

Probiotic All-Flora® Probiotic Anti-Aging Probiotic Cleanse™

Probiotic Colon™

Regimint

Theralac Probiotics

DURK AND SANDY PRODUCTS

Blast™

Dual-C

Inner Power™

Memory Upgrade™

EYE CARE

Blackcurrant Freeze Dried Extract

Brite Eyes III

Eye Pressure Support with Mirtogenol® Overxcast Polarized Sunglasses

Bilberry Extract

Solarshield Sunglasses Super Zeaxanthin with Lutein &

Meso-Zeaxanthin and C3G

(Plus Astaxanthin also available) Vision Optimizer

Apple Pectin Powder

Fiber Food

Hi-Lignan® Nutri-Flax®

TruFiber®

WellBetX PGX® Soluble Fiber Blend

FOOD

Asian Cruciferous Vegetable Soup Cruciferous Vegetable Soup Rich Rewards Coffee

HAIR CARE

Dr. Proctor's Advanced Hair Formula

Dr. Proctor's Shampoo

Life Extension Shampoo and Conditioner Super-Absorbable Tocotrienols

HEART HEALTH

Advanced Lipid Control

Aspirin (Enteric Coated)

Cho-Less™

D-Ribose Capsules D-Ribose Powder Endothelial Defense™ with

Full-Spectrum Pomegranate™

Fibrinogen Resist

Forskolin

Garlicforce™

Homocysteine Resist

Krill Healthy Joint Formula

Natural BP Management

Olive Leaf Vascular Support Peak ATP® with GlycoCarn®

Policosanol

Red Yeast Rice Super Absorbable CoQ10™ with *d*-Limonene

Super Absorbable CoQT0⁻⁻⁻⁻ with *a*-Limor Super Omega-3 EPA/DHA with Sesame Lignans & Olive Fruit Extract Super Ubiquinol CoQ10 Super Ubiquinol CoQ10 with Enhanced Mitochondrial™ Support

Sytrinol™

Theaflavin Standardized Extract

TMG Powder

TMG Tablets

HERBAL/PHYTO PRODUCTS

Artichoke Leaf Extract

Astaxanthin

Berry Complete Blueberry Extract

Blueberry Extract w/Pomegranate

Butterbur Extract w/Standardized

Rosmarinic Acid

Calcium D-Glucarate

Cilantro Herbal Extract

Citrus Bioflavonoid

Enhanced Berry Complete with RZD™ Acai Floradix® Iron & Herbs

Floravital® Iron & Herbs
Full-Spectrum Pomegranate™

Grapeseed Extract with Resveratrol & Pterostilbene

Huperzine A with Natural Vitamin E Kyolic® Garlic Formula 105 Kyolic® Reserve

Mega Green Tea Extract Mega Green Tea Extract (Decaffeinated)

(also w/CoffeeGenic Green Coffee extract) Mega Lycopene Extract

Optimized Ashwagandha Extract

Optimized Garlic

Pomegranate Extract Pomegranate Juice Concentrate ProGreens®

Pure-Gar™

Pycnogenol Optimized Quercetin

Resveratrol with Synergistic Grape-Berry Actives

Rhodiola Extract Rosmarinic Acid Extract

Silymarin

SODzvme™ with GliSODin®

Stevia Extract

Super Bio-Curcumin®

Super Ginkgo Extract
Triple Action Cruciferous Vegetable Extract

Venotone

Whole Grape Extract

HORMONES

7-Keto® DHEA DHEA

DHEA Complete
GH Pituitary Support Day Formula
GH Pituitary Support Night Formula

Melatonin

Melatonin Timed Release

Natural Estrogen with Pomegranate Extract

Pregnenolone

ProFem Cream

Pure IGF

Super Miraforte with Standarized 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® Immunitv™

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 Krill 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 Copper

Products

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™ Powder
Life Extension Mix™ Tablets
Life Extension Mix™ More 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 Oper Port Day

Life Extension One-Per-Day Life Extension Two-Per-Day

Super Booster Softgels w/Advanced K2 Complex

PET CARE

Cat Mix

Dog Mix

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w/Beta-Sitosterol

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SKIN CARE

Advanced Under Eye Serum with Stem Cells

Amber Self MicroDermabrasion

Anti-Aging Mask

Anti-Glycation Serum

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Anti-Redness & Blemish Lotion Cellulite Suppress™ Formula

Corrective Clearing Mask

DermaWhey DNA Repair Cream

Dual-Action MicroDerm Abraision

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

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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

Pigment Correcting Cream
(Ultra) Rejuvenex® Body Lotion
Rejuvenex® Body Lotion
Rejuvenex® Factor
Rejuvenating Serum
Resveratrol Anti-Oxidant Serum
Skin Lightening Serum
Skin Restoring Ceramides w/Lipowheat™
Skin Stem Cell Serum
Supercritical Omega 7™
Sup Protection Spray

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

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Super Absorbable Soy Isoflavones

Ultra Soy Extract

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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/InSea^{2™} 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

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

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MK-7

No-Flush Niacin Optimized Folate

PABA Capsules

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Tocotrienols w/Sesame Lignans

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Vitamin C

Vitamin D

Vitamin D3 Vitamin D3 w/Sea-Iodine™

Vitamins D and K w/Sea-lodine™

Vitamin K1

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Anti-Adipocyte Formula w/AdipoStat

Calorie Control Weight Management Formula

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DHEA Complete Fucoxanthin Slim™

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

Super CLA Blend w/Guarana and

Stevia Liquid Extract

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Super CLA Blend w/Sesame Lignans

Udo's Choice Wholesome Fast Food Blend WellBetX PGX® Soluble Fiber Blend

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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		
01300	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		Г
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		
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	ARTHROMAX™ w/THEAFLAVINS & APRÈSFLEX™- 120 veg. caps	44.00	33.00		
	Buy 4 bottles, price each	40.00	30.00		
01618	ARTHROMAX™ ADVANCED w/UC-II® & APRÈSFLEX™- 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		
01101	Buy 4 bottles, price each	28.00	21.00		
00919	ARTICHOKE LEAF EXTRACT - 500 mg, 180 veg. caps	28.00	21.00		\vdash
	Buy 4 bottles, price each	25.38	19.04		
00080	ASCORBIC ACID POWDER - 454 grams	38.00	28.50		\vdash
00000	Buy 4 bottles, price each	34.93	26.20		
00082	ASCORBYL PALMITATE - 500 mg, 100 caps	22.50	16.88		
JUUUL	Buy 4 bottles, price each	20.00	15.00		
00888	ASHWAGANDHA EXTRACT (OPTIMIZED) - 60 veg. caps	10.00	7.50		\vdash
00000	Buy 4 bottles, price each	9.00	6.75		
		0.00	0.10		
					L
	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		
	В				
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		
01073	BILBERRY EXTRACT - 100 mg, 100 veg. caps	28.00	21.00		
	Buy 4 bottles, price each	25.00	18.75		
)1512	BIOACTIVE MILK PEPTIDES - 30 caps	18.00	13.50		
	Buy 4 bottles, price each	16.00	12.00		
1006	BIOSIL™ - 5 mg, 30 veg. caps	18.95	15.16		
1007	BIOSIL™ - 1 fl oz	29.99	23.99		
0102	BIOTIN - 600 mcg, 100 caps	7.50	5.63		
	Buy 4 bottles, price each	6.50	4.88		
0145	BIOTIN POWDER - 30 grams	12.50	9.38		
	Buy 4 bottles, price each	11.00	8.25		
1008	BLAST™ - 600 grams of powder	26.95	20.21		
1526	BLENDER - 28 oz bottle	8.99	6.74		
0000	BLOOD PRESSURE MONITOR-ARM CUFF (medium)	99.95	64.97		
0004	BLOOD PRESSURE MONITOR-WRIST (travel size)	69.95	52.46		
)1214	BLUEBERRY EXTRACT - 60 veg. caps	22.50	16.88		
	Buy 4 bottles, price each	20.00	15.00		
)1438	BLUEBERRY EXTRACT w/ POMEGRANATE - 60 veg. caps	30.00	22.50		
	Buy 4 bottles, price each	27.00	20.25		
1506	BONE FORMULA (DR. STRUM'S INTENSIVE) - 300 veg. caps	56.00	42.00		
	Buy 4 bottles, price each	50.00	37.50		
)1611	BONE RESTORE - 150 caps	22.50	16.88		
	Buy 4 bottles, price each	19.50	14.63		
)1211	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		
1379	BOOSTER - 60 softgels	48.00	36.00		
	Buy 4 bottles, price each	44.00	33.00		
1680	BOOSTER w/ADVANCED K2 COMPLEX (SUPER) - 60 softgels	42.00	31.50		
	Buy 4 bottles, price each	38.00	28.50		
0621	BORON - 3 mg, 100 caps	5.95	4.46		
	Buy 4 bottles, price each	5.25	3.94		
0202	BOSWELLA - 100 caps	38.00	28.50		
	Buy 4 bottles, price each	30.00	22.50		
0258	BOSWELLA TOPICAL CREAM - 4 OZ	15.00	11.25		
	Pun A jara price each	13.00	9.75		
	Buy 4 jars, price each	10.00	5.10		

No.		Retail Each	Member Each	Qty	Total
01253	BRANCHED CHAIN AMINO ACIDS - 90 veg. caps	\$19.50	\$14.63		
	Buy 4 bottles, price each	17.00	12.75		
00999	BREAST HEALTH FORMULA - 60 veg. caps	34.00	25.50		
	Buy 4 bottles, price each	30.00	22.50		
00893	BRITE EYES III - 2 vials, 5 ml each	34.00	25.50		
	Buy 4 boxes, price each	32.00	24.00		
00136	BROMELAIN POWDER - 100 grams	21.00	15.75		
00100	Buy 4 bottles, price each	18.75	14.06		
01203	BROMELAIN (SPECIALLY-COATED) - 500 mg, 60 enteric coated tablets		15.75		
01200	Buy 4 bottles, price each	19.00	14.25		
00884	BUTTERBUR EXT. w/STANDARDIZED ROSMARINIC ACID - 60 softgels	44.00	33.00		
00004	Buy 4 bottles, price each	39.60	29.70		
	C	33.00	23.10		
01015	CALCIUM CITRATE w/VITAMIN D - 300 caps	\$24.00	\$18.00		
01013	Buy 4 bottles, price each	21.25	15.94		
00535	· · · · · · · · · · · · · · · · · · ·	18.00	13.50		
00000	CALCIUM D-GLUCARATE - 200 mg, 60 caps Buy 4 bottles, price each	15.00	11.25		
01693	CALORIE CONTROL WEIGHT MANAGEMENT FORMULA	60.00	45.00		
01093	w/COFFEEGENIC™ GREEN COFFEE EXTRACT BLUEBERRY FLAVOR - 414 grams powder	60.00	43.00		
	Buy 4 jars, price each	54.00	40.50		
	Buy 8 jars, price each	50.00	37.50		
01694	CALORIE CONTROL WEIGHT MANAGEMENT FORMULA W/COFFEEGENIC™ GREEN COFFEE EXTRACT BLUEBERRY FLAVOR - 60 individual packs	64.00	48.00		
	Buy 4 boxes, price each	60.00	45.00		
	Buy 8 boxes, price each	56.00	42.00		
00118	CAPSULE FILLER MACHINE FOR "00" CAPSULES	18.95	14.21		
	Buy 4 machines, price each	18.25	13.69		
00613	CAPSULE FILLER MACHINE FOR "0" CAPSULES	18.95	14.21		
	Buy 4 machines, price each	18.25	13.69		
00916	CARNITINE w/GLYCOCARN® (OPTIMIZED) - 60 veg. caps	36.00	27.00		
	Buy 4 bottles, price each	32.00	24.00		
01041	L-CARNITINE - 500 mg, 30 caps	15.00	11.25		
	Buy 4 bottles, price each	13.20	9.90		
01258	CARNOSOOTHE w/PICROPROTECT™ - 60 veg. caps	29.95	22.46		
	Buy 4 bottles, price each	27.00	20.25		
01287	CARNOSINE (SUPER) - 500 mg, 90 caps	66.00	49.50		
	Buy 4 bottles, price each	60.00	45.00		
01003	CAT MIX - 100 grams powder	15.00	11.25		
	Buy 4 bottles, price each	12.00	9.00		
00390	CDP CHOLINE CAPS - 250 mg, 60 caps	36.00	27.00		
	Buy 4 bottles, price each	34.00	25.50		
00998	CELL SENSOR-EMF DETECTION METER	39.95	29.95		
01370	CHILDREN'S FORMULA LIFE EXTENSION MIX™ - 100 chewable tablets	18.00	13.50		
	Buy 4 bottles, price each	16.00	12.00		
00550	CHLORELLA - 500 mg, 200 tablets	23.50	17.63		
	Buy 4 bottles, price each	21.00	15.75		
01549	CHLOROPHYLLIN w/ZINC - 100 veg. caps	24.00	18.00		
	Buy 4 bottles, price each	20.00	15.00		
*01359		32.50	24.38		
00541	CHOLINE CHLORIDE - 16 oz liquid	14.95	11.21		
	Buy 4 bottles, price each	14.00	10.50		
00364	CHONDROITIN SULFATE CONCENTRATE - 400 mg, 60 tablets	19.95	14.96		
	Buy 4 bottles, price each	18.00	13.50		
01477	CHROMIUM ULTRA - 100 veg. caps	24.00	18.00		
	Buy 4 bottles, price each	21.00	15.75		
	SUB-TOTAL OF COLUMN 3				

		Retail Each	Member Each	Qty	Total
01504	CHROMIUM W/CROMINEX® 3+ (OPTIMIZED) - 500 mcg, 60 veg. caps	\$9.00	\$6.75		
	Buy 4 bottles, price each	8.00	6.00		
00551	CILANTRO HERBAL EXTRACT - 1 OZ	12.00	9.00		
	Buy 4 bottles, price each	11.00	8.25		
01503	CINSULIN® W/INSEA2™ AND CROMINEX® 3+- 90 veg. caps	38.00	28.50		
	Buy 4 bottles, price each	34.00	25.50		
00069	CITRUS BIOFLAVONOID - 100 caps	16.79	12.59		
	Buy 4 bottles, price each	15.56	11.67		
00818	CLA BLEND W/SESAME LIGNANS (SUPER) - 1000 mg, 120 softgels	36.00	27.00		
	Buy 4 bottles, price each	33.00	24.75		
	Buy 10 bottles, price each	26.33	19.75		
00819	CLA BLEND w/GUARANA & SESAME (SUPER)-1000 mg, 120 softgels	42.00	31.50		
	Buy 4 bottles, price each	38.33	28.75		
01078	CLEANSE SMART - 60 caps	31.99	23.99		
00050	COD LIVER OIL (EMULSIFIED) - 12 fl oz (355 ml)	14.58	10.94		
	Buy 4 bottles, price each	12.27	9.20		
00293	COD LIVER OIL (EMULSIFIED) - 100 softgels (Emulsified)	10.97	8.23		
	Buy 4 bottles, price each	10.34	7.76		
00922	COGNITEX® w/PREGNENOLONE &	74.00	55.50		
	NEUROPROTECTION COMPLEX - 90 softgels	00.00	40.05		
	Buy 4 bottles, price each	66.60	49.95		
	Buy 12 bottles, price each	64.00	48.00		
00921	COGNITEX® w/o PREGNENOLONE w/NEUROPROTECTION COMPLEX - 90 softgels	72.00	54.00		
	Buy 4 bottles, price each	64.00	48.00		
	Buy 12 bottles, price each	62.00	46.50		
01421	COGNITEX® BASICS - 60 softgels	38.00	28.50		
	Buy 4 bottles, price each	35.00	26.25		
	Buy 12 bottles, price each	32.00	24.00		
00110	COMPLETE B-COMPLEX - 180 caps	21.50	16.13		
00110	Buy 4 bottles, price each	18.00	13.50		
01595	COMPREHENSIVE NUTRIENT PACK - 30-day supply	189.00	141.75		
01000	Buy 4 bottles, price each	171.00	128.25		
00119	COPPER CAPSULES - 2 mg, 100 caps	9.91	7.43	_	
00119			-		
	Buy 4 bottles, price each	8.96	6.72	_	
00949	COQ10™ w/ #-LIMONENE (SUPER ABSORBABLE) - 50 mg, 60 softgels	25.00	18.75		
	Buy 4 bottles, price each	22.00	16.50		
	Buy 10 bottles, price each	20.00	15.00		
00950	COQ10™ w/ d-LIMONENE (SUPER ABSORBABLE) - 100 mg, 100 softgels	66.00	49.50		
	Buy 4 bottles, price each	60.00	45.00		
	Buy 10 bottles, price each	56.00	42.00		
01226	COQ10 (SUPER UBIQUINOL) - 100 mg, 60 softgels	56.00	42.00		
	Buy 4 bottles, price each	52.00	39.00		
	Buy 10 bottles, price each	48.00	36.00		
01426	COQ10 W/ENH MITOCHONDRIAL SUPPORT™ (SUPER UBIQUINOL)-100 mg, 60 softgels	62.00	46.50		
0	Buy 4 bottles, price each	56.00	42.00		
	Buy 10 bottles, price each	52.00	39.00		
04.405	COQ10 w/ENH MITOCHONDRIAL SUPPORT™ (SUPER UBIQUINOL)-50 mg, 100 softgels	58.00	43.50	\vdash	
01425	Buy 4 bottles, price each	53.00	39.75		
01425	56, . 50tti00, priod 000il	55.00			
01425	Ruy 10 hottles price each	ደበ በቦ	27 50		ı
	Buy 10 bottles, price each	50.00	37.50		
	COQ10 w/ENH MITOCHONDRIAL SUPPORT** (SUPER UBIQUINOL)-50 mg, 30 softgels	20.00	15.00		
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		
01427	COQ10 w/ENH MITOCHONDRIAL SUPPORT** (SUPER UBIQUINOL)-50 mg, 30 softgels	20.00	15.00		
01425 01427 01431	COQ10 w/ENH MITOCHONDRIAL SUPPORT** (SUPER UBIQUINOL)-50 mg, 30 softgels Buy 4 bottles, price each	20.00 18.00	15.00 13.50		
01427	COQ10 w/ENH MITOCHONDRIAL SUPPORT" (SUPER UBIQUINOL)-50 mg, 30 softgels Buy 4 bottles, price each COQ10 w/ENH MITOCHONDRIAL SUPPORT" (SUPER UBIQUINOL)-200 mg, 30 softgels	20.00 18.00 62.00	15.00 13.50 46.50		

Buyers Club Order Form

To order call: 1.954.766.8433 or 1.800.544.4440

No.		Retail Each	Member Each	Qty	Tota
	C CONTINUED				
01053	CORIOLUS SUPER STRENGTH - 600 mg, 150 veg. caps	\$99.95	\$74.96		
30140	COSMESIS ADVANCED UNDER EYE SERUM w/STEM CELLS - 33 oz	49.00	36.75		
	Buy 2 bottles, price each	42.00	31.50		
80139	COSMESIS AMBER SELF MICRODERMABRASION - 2 oz	49.00	36.75		
	Buy 2 jars, price each	42.00	31.50		
80118	COSMESIS ANTI-AGING MASK - 2 OZ	72.00	54.00		
	Buy 2 bottles, price each	63.36	47.52		
80134	COSMESIS ANTI-GLYCATION SERUM - 1 0Z W/BLUEBERRY & POMEGRANATE EXTRACTS	33.00	24.75		
	Buy 2 bottles, price each	31.35	23.51		
80133	COSMESIS ANTIOXIDANT FACIAL MIST - 2 oz	32.00	24.00		
	Buy 2 bottles, price each	30.40	22.80		
80127	COSMESIS ANTIOXIDANT REJUVENATING FOOT CREAM - 2 OZ	45.00	33.75		
	Buy 2 jars, price each	42.80	32.10		
80128	COSMESIS ANTIOXIDANT REJUVENATING FOOT SCRUB - 2 OZ	59.00	44.25		
	Buy 2 jars, price each	51.92	38.94		
80117	COSMESIS ANTIOXIDANT REJUVENATING HAND CREAM - 2 OZ	64.00	48.00		
	Buy 2 jars, price each	57.49	43.12		
80121	COSMESIS ANTIOXIDANT REJUVENATING HAND SCRUB - 2 0Z	58.00	43.50		
	Buy 2 jars, price each	51.04	38.28		
80105	COSMESIS ANTI-REDNESS & BLEMISH LOTION - 1 OZ	74.50	55.88		
00100	Buy 2 bottles, price each	65.56	49.17		
80120	COSMESIS CORRECTIVE CLEARING MASK - 2 oz	64.50	48.38		
00120	Buy 2 jars, price each	56.76	42.57		
R01//1		49.00	36.75		
	COSMESIS DNA REPAIR CREAM - 1 oz jar				
30108	Buy 2 jars, price each	42.00	31.50		
	COSMESIS ESSENTIAL PLANT LIPIDS REPARATIVE SERUM - 1 0Z	74.95	56.21		
00400	Buy 2 bottles, price each	65.95	49.46		<u> </u>
80123 (COSMESIS FACE REJUVENATING ANTIOXIDANT CREAM - 2 0Z	69.50	52.13		
00107	Buy 2 jars, price each	61.16	45.87		
80107	COSMESIS FINE LINE-LESS - 1 OZ	74.50	55.88		
	Buy 2 bottles, price each	65.56	49.17		<u> </u>
80131	COSMESIS HAIR SUPPRESS FORMULA - 4 0Z	59.00	44.25		
	Buy 2 bottles, price each	51.92	38.94		
80137	COSMESIS HEALING FORMULA ALL-IN-ONE CREAM - 1 OZ	53.00	39.75		
	Buy 2 jars, price each	45.43	34.07		
80115	COSMESIS HEALING MASK - 2 0Z	64.50	48.38		
	Buy 2 bottles, price each	56.76	42.57		
80109	COSMESIS HYALURONIC FACIAL MOISTURIZER - 1 02	58.00	43.50		
	Buy 2 bottles, price each	51.04	38.28		
80110	COSMESIS HYALURONIC OIL-FREE FACIAL MOISTURIZER - 1 0Z	58.00	43.50		
	Buy 2 bottles, price each	51.04	38.28		
80138	COSMESIS HYDRATING ANTI-OXIDANT FACE MIST - 4 OZ	39.95	29.96		
	Buy 2 bottles, price each	38.00	28.50		
80103	COSMESIS LIFTING & TIGHTENING COMPLEX - 1 OZ	74.50	55.88		
	Buy 2 bottles, price each	65.56	49.17		
80135	COSMESIS MELATONIN CREAM - 1 0Z	33.00	24.75		
	Buy 2 jars, price each	27.10	20.33		
30114	COSMESIS MILD FACIAL CLEANSER - 8 02	59.00	44.25		
	Buy 2 bottles, price each	51.92	38.94		
80122	COSMESIS NECK REJUVENATING ANTIOXIDANT CREAM - 2 OZ	64.00	48.00		
00166	Buy 2 jars, price each	56.32	42.24		
80111	COSMESIS PIGMENT CORRECTING CREAM - 1/2 oz	74.00			
5011I	Buy 2 bottles, price each	65.12	48.84		
	Edy 2 Juliios, prioc cacii	00.12	70.04		
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No.		Retail Each	Member Each	Qty	Total
80106	COSMESIS REJUVENATING SERUM - 1 OZ	\$74.50	\$55.88		
	Buy 2 bottles, price each	65.56	49.17		
30142	COSMESIS RESVERATROL ANTI-OXIDANT SERUM - 1 OZ	46.00	34.50		
	Buy 2 bottles, price each	39.00	29.25		
30112	COSMESIS SKIN LIGHTENING SERUM - 1/2 OZ	85.00	63.75		
	Buy 2 bottles, price each	74.80	56.10		
30130	COSMESIS SKIN STEM CELL SERUM - 1 oz	74.00	55.50		
	Buy 2 bottles, price each	69.00	51.75		
30116	COSMESIS ULTRA LIP PLUMPER - 1/3 oz	64.00	48.00		
00110		56.32	42.24		
20101	Buy 2 bottles, price each	_	_		
30101	COSMESIS ULTRA WRINKLE RELAXER - 1 0Z	89.95	67.46		
	Buy 2 bottles, price each	79.76	59.82		
30113	COSMESIS UNDER EYE REFINING SERUM - 1/2 oz	74.50	55.88		
	Buy 2 bottles, price each	65.56	49.17		
30104	COSMESIS UNDER EYE RESCUE CREAM - 1/2 oz	74.50	55.88		
	Buy 2 bottles, price each	65.56	49.17		
30129	COSMESIS VITAMIN C SERUM - 1 oz	85.00	63.75		
	Buy 2 bottles, price each	74.80	56.10		
80136	COSMESIS VITAMIN D LOTION - 4 0Z	36.00	27.00		
	Buy 2 bottles, price each	33.66	25.25		
30102	COSMESIS VITAMIN K HEALING CREAM - 1 0Z	79.50	59.63		
	Buy 2 bottles, price each	69.96	52.47		
01424	CRAN-MAX® with UTIROSE™ (OPTIMIZED) - 60 veg. caps	18.00	13.50		
/	Buy 4 bottles, price each	16.00	12.00		
00609		10.95	8.21		
	CREATINE CAPSULES - 120 caps		-		
	Buy 4 bottles, price each	9.25	6.94		
JU61U	CREATINE POWDER - 500 grams	29.00	21.75		
	Buy 4 bottles, price each	26.63	19.97		
01096	CREATINE WHEY GLUTAMINE POWDER - 1000 grams (vanilla)	50.00	37.50		
	Buy 4 bottles, price each	48.00	36.00		
^01519	CRUCIFEROUS VEGETABLE SOUP - 32 oz. pouch	11.95	8.96		
	Buy 6 pouches, price each	11.25	8.44		
^01520	(ASIAN) CRUCIFEROUS VEGETABLE SOUP - 32 oz. pouch	11.95	8.96		
	Buy 6 pouches, price each	11.25	8.44		
)1429	CR MIMETIC LONGEVITY FORMULA - 60 veg. caps	39.00	29.25		
	Buy 4 bottles, price each	36.00	27.00		
*CRWAY		195.00	195.00		
00407	CURCUMIN® (SUPER BIO) - 400 mg, 60 veg. caps	38.00	28.50		
70 107	Buy 4 bottles, price each	35.00	26.25		
	D	00.00	20.20		
11070		ф04 OF	Φ1C 4C		
1376	DAILY GINGER® - 90 veg. caps	\$21.95	\$16.46		
1313	DERMAWHEY- 400 mg, 60 caps	65.00	48.75		
	Buy 4 bottles, price each	59.00	44.25		_
00995	DHA 240 - 240 mg, 60 softgels	19.00	14.25		
	Buy 4 bottles, price each	17.00	12.75		
00658	7-KETO® DHEA METABOLITE - 25 mg, 100 caps	28.00	21.00		
	Buy 4 bottles, price each	24.00	18.00		
1479	7-KETO® DHEA METABOLITE - 100 mg, 60 veg. caps	40.00	30.00		
	Buy 4 bottles, price each	36.00	27.00		
0607	DHEA - 25 mg, 100 tablets (dissolve in mouth)	14.00	10.50		
	Buy 4 bottles, price each	11.75	8.81		
)1478	DHEA COMPLETE - 60 veg. caps	48.00	36.00		\vdash
,1710	Buy 4 bottles, price each	43.20	32.40		
	Day 7 Duttino, prince cacil	+0.20	JZ.4U		
	SUB-TOTAL OF COLUMN 6				

No.		Retail Each	Member Each	Qty	Total
00335	DHEA - 25 mg, 100 caps	\$15.00	\$11.25		
	Buy 4 bottles, price each	12.50	9.38		
00454	DHEA - 15 mg, 100 caps	12.00	9.00		
	Buy 4 bottles, price each	10.00	7.50		
00882	DHEA - 50 mg, 60 caps	16.00	12.00		
	Buy 4 bottles, price each	14.00	10.50		
00883	DHEA - 100 mg, 60 caps	22.50	16.88		
	Buy 4 bottles, price each	19.00	14.25		
01358	DIGEST RC - 30 tablets	19.95	14.96		
	Buy 4 boxes, price each	17.00	12.75		
01272	DIGESTIVE ENZYMES (ENHANCED SUPER)- 100 veg. caps	18.95	14.21		
	Buy 4 bottles, price each	16.00	12.00		
00034	D,L-PHENYLALANINE CAPSULES - 500 mg, 100 caps	18.75	14.06		
00001	Buy 4 bottles, price each	16.00	12.00		
00257	DMAE BITARTRATE - 150 mg, 200 caps	14.00	10.50		
00201	Buy 4 bottles, price each	10.50	7.88		
00059	DMG - 125 mg, 60 tablets	22.80	17.10		
00003	Buy 4 boxes, price each	21.00	15.75		
01547		30.00	22.50		\vdash
u 1 J4/	DNA PROTECTION FORMULA - 60 veg. caps Ruy 4 hottles, price each	28.00	21.00		
00544	Buy 4 bottles, price each	_			
JU544	DOG MIX - 100 grams powder	19.50	14.63		
00321	Buy 4 bottles, price each	16.00	12.00		
JU321	DR. PROCTOR'S ADVANCED HAIR FORMULA - 2 0Z	39.95	29.96		
00000	Buy 4 bottles, price each	32.00	24.00		-
00320	DR. PROCTOR'S HAIR FORMULA SHAMPOO - 8 0Z	24.95	18.71		
00000	Buy 4 bottles, price each	22.00	16.50		
00899	DUAL-ACTION MICRODERMABRASION ADV. EXFOLIATE - 2.4 0Z	39.95	29.96		
	Buy 4 jars, price each	38.95	29.21		
00240	DUAL-C - 90 caps	12.00	9.00		
	Buy 4 bottles, price each	10.50	7.88		
	E	1			
00388	ECHINACEA EXTRACT - 250 mg, 60 caps	\$14.35	\$10.76		
	Buy 4 bottles, price each	12.50	9.38		
01395	EDTA - 500 mg, 60 caps	9.98	7.49		
01321	ELASTIN & COLLAGEN BODY FIRMING LOTION - 8 fl. oz.	10.00	7.50		
01498	ENDOTHELIAL DEFENSE™ w/FULL-SPECTRUM POMEGRANATE™ - 60 softgels	56.00	42.00		
	Buy 4 bottles, price each	52.00	39.00		
00997	ENDOTHELIAL DEFENSE™ w/GLISODIN® - 60 veg. caps	52.00	39.00		
	Buy 4 bottles, price each	46.00	34.50		
00625	EPA/DHA (MEGA) - 120 softgels	19.95	14.96		
	Buy 4 bottles, price each	18.00	13.50		
01042	EUROPEAN LEG SOLUTION DIOSMIN 95 - 600 mg, 30 veg. tabs	20.00	15.00		
	Buy 4 bottles, price each	18.00	13.50		
01514	EYE PRESSURE SUPPORT w/MIRTOGENOL® - 30 veg. caps	38.00	28.50		
	Buy 4 bottles, price each	34.00	25.50		
	F				
[#] 01054	FACE MASTER® PLATINUM	\$199.00	\$199.00		
00965	FAST-ACTING JOINT FORMULA - 30 caps	39.00	29.25		
	Buy 4 bottles, price each	36.00	27.00		
20053	FEM DOPHILUS® - 30 caps	25.95	19.46		
	FEM DOPHILUS® - 60 caps	39.95	29.96		
20055	FEMMENESSENCE MACAPAUSE® - 120 veg. caps	34.99	26.24		
20055 01064 01311	FEMMENESSENCE MACAPAUSE® - 120 veg. caps FERNBLOCK® w/SENDARA™ (ENHANCED) - 30 veg. caps	34.99 39.00	26.24 29.25		

No.		Retail Each	Member Each	Qty	Total
00229	FIBER FOOD CAPS - 200 caps	\$15.00	\$11.25		
	Buy 4 bottles, price each	12.50	9.38		
	Buy 10 bottles, price each	11.90	8.93		
00718	FIBRINOGEN RESIST™ - 30 veg. caps	49.00	36.75		
	Buy 4 bottles, price each	44.00	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-METHYLFOLATE) 1000 mcg - 100 veg. caps	28.00	21.00		
	Buy 4 bottles, price each	25.00	18.75		
00347	FOLIC ACID + B12 CAPSULES - 200 caps	10.50	7.88		
	Buy 4 bottles, price each	9.50	7.13		
00300	FORSKOLIN - 10 mg, 60 caps	15.00	11.25		
00000	Buy 4 bottles, price each	12.50	9.38		
01510	* * * * * * * * * * * * * * * * * * * *			_	
01513	FUCOIDAN w/MARITECH® 926 (OPTIMIZED) - 60 veg. caps	36.00	27.00		
00000	Buy 4 bottles, price each	33.00	24.75	\vdash	
00993	FUCOXANTHIN-SLIM™ - 90 softgels	44.00	33.00		
	Buy 4 bottles, price each	39.00	29.25	_	
	G		l .		
00127	GABA POWDER - 100 grams	\$23.75	\$17.81		
	Buy 4 bottles, price each	22.50	16.88	_	
00559	GAMMA E TOCOPHEROL/TOCOTRIENOLS - 60 softgels	42.00	31.50		
	Buy 4 bottles, price each	37.00	27.75	_	
00759	GAMMA E TOCOPHEROL W/SESAME LIGNANS - 60 softgels	32.00	24.00		
	Buy 4 bottles, price each	29.00	21.75		
01394	(OPTIMIZED) GARLIC - 200 veg. caps	24.95	18.71		
04070	Buy 4 bottles, price each	21.00	15.75	_	
01378	GARLIC FORCE™ - 30 softgels	34.95	26.21		
00117	GELATIN CAPSULES - 1000 empty caps size "00"	19.00	14.25		
01201	Buy 4 bags, price each	18.00	13.50	_	
01301	GH PITUITARY SUPPORT DAY FORMULA - 120 vegetarian tabs	48.00	36.00		
01200	Buy 4 bottles, price each	44.00	33.00	_	
01302	GH PITUITARY SUPPORT NIGHT FORMULA - 120 veg. caps	25.00	18.75		
01220	Buy 4 bottles, price each	22.50	16.88 22.46		
01228	GINGER FORCE - 60 softgels	29.95			
00778	GINKGO BILOBA CERTIFIED EXTRACT™ - 120 mg, 365 caps	46.00	34.50		
00504	Buy 2 bottles, price each	43.50	32.63		
00004	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	\vdash	
00756	GLA WITH SESAME LIGNANS (MEGA) - 60 softgels	19.50	14.63	\vdash	
00100	Buy 4 bottles, price each	18.00	13.50		
00345	(L) GLUTAMINE CAPSULES - 500 mg, 100 caps	14.95	11.21		
00040	Buy 4 bottles, price each	13.50	10.13		
00141	(L)-GLUTAMINE POWDER - 100 grams	19.00	14.25		
00141	Buy 4 bottles, price each	16.88	12.66		
00522	GLUCOSAMINE/CHONDROITIN CAPSULES - 100 caps	38.00	28.50	\vdash	
UUULL					
00510	Buy 4 bottles, price each	32.00	24.00	\vdash	
00512	GLUCOFIT™ - 100 softgels	28.00	21.00		
001:0	Buy 4 bottles, price each	25.00	18.75		
00113	GLUTATHIONE, CYSTEINE & C - 750 mg, 100 caps	18.00	13.50		
	Buy 4 bottles, price each	16.00	12.00	_	
00314	L-GLUTATHIONE (MEGA) - 250 mg, 60 caps	39.64	29.73		
	Buy 4 bottles, price each	35.68	26.76		
	CUD TOTAL OF COLUMN 5				
	SUB-TOTAL OF COLUMN 8				

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No.		Retail Each	Member Each	Qty	Total
	G CONTINUED				
00795	GLYCINE - 1000 mg, 100 caps	\$12.00	\$9.00		
	Buy 4 bottles, price each	10.80	8.10		
00128	GLYCINE POWDER - 300 grams	18.00	13.50		
	Buy 4 bottles, price each	16.00	12.00		
01091	GRAPE EXTRACT w/RESVERATROL (WHOLE) - 60 veg. caps	36.00	27.00		
	Buy 4 bottles, price each	34.00	25.50		
01411	GRAPE SEED EXTRACT w/RESVERATROL & PTEROSTILBENE - 100 mg, 60 veg. caps	36.00	27.00		
	Buy 4 bottles, price each	34.00	25.50		
01604	GREEN COFFEE EXTRACT COFFEEGENIC™ - 200 mg, 90 veg. caps	25.00	18.75		
0.00.	Buy 4 bottles, price each	22.00	16.50		
01620	GREEN COFFEE EXTRACT COFFEEGENIC™ - 400 mg, 90 veg. caps	38.00	28.50		\vdash
01020	Buy 4 bottles, price each	34.00	25.50		
01607			43.50	_	\vdash
01607	GREEN COFFEE EXTRACT COFFEEGENIC™ - 90 veg. caps w/GLUCOSE CONTROL COMPLEX	58.00			
	Buy 4 bottles, price each	52.00	39.00		
00953	GREEN TEA EXTRACT (MEGA) - lightly caffeinated - 100 veg. caps	28.00	21.00		
	Buy 4 bottles, price each	26.50	19.88		
00954	GREEN TEA EXTRACT (MEGA) - decaffeinated - 100 veg. caps	28.00	21.00		
	Buy 4 bottles, price each	26.50	19.88		
01606	GREEN TEA W/COFFEEGENIC™ GREEN COFFEE EXTRACT (MEGA) 120 veg. caps, low caffeine	32.00	24.00		
	Buy 4 bottles, price each	28.00	21.00		
01605	GREEN TEA W/COFFEEGENIC™ GREEN COFFEE EXTRACT (MEGA) 120 veg. caps	32.00	24.00		
	Buy 4 bottles, price each	28.00	21.00		
	Н				
01074	5 HTP - 100 mg, 60 caps	\$27.95	\$20.96		
00010	HAIR CONDITIONER - 16 oz	6.00	4.50		
	Buy 4 bottles, price each	4.50	3.38		
00230	HCA - 90 caps	18.00	13.50		
	Buy 4 bottles, price each	15.50	11.63		
01393	HEPATOPRO - 900 mg, 60 softgels	50.00	37.50		
	Buy 4 bottles, price each	46.00	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	24.00	18.00		\vdash
01100	Buy 4 bottles, price each	21.60	16.20		
01527	HUPERZINE A - 200 mcg, 60 veg caps		25.50	_	\vdash
01321		34.00			
00004	Buy 4 bottles, price each	30.00	22.50	_	\vdash
00661	HYDRODERM® - 1 oz	79.95	59.96		
	Buy 2 bottles, price each	65.33	49.00		
0.1000	1		1 * * * * * * *		
01060	i26 HYPERIMMUNE EGG - 140 grams powder	\$49.99	\$42.00		<u> </u>
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	29.50	22.13		
	Buy 4 bottles, price each	26.55	19.91		
01049	INNERPOWER™ - 555 grams powder	42.00	31.50		
00155	INOSINE - 500 mg, 60 caps	22.95	17.21		
	Buy 4 bottles, price each	21.00	15.75		
00410	INOSITOL CAPSULES - 1000 mg, 360 caps	48.00	36.00		
	Buy 4 bottles, price each	43.75	32.81		
	SUB-TOTAL OF COLUMN 9				

MISSTOL POWDER - 100 gams	No.		Retail Each	Member Each	Qty	Total
NTACT DIGEST** - 8 1 oz Buy 4 bottlites, price each 33.00 24.75	00108	INOSITOL POWDER - 100 grams	\$18.00	\$13.50		
Bluy 4 bottles, price each 33.00 24.75		Buy 4 bottles, price each	16.88	12.66		
01292 MTEGRA-LEAN* IRVINGIA - 150 mg, 60 veg. caps 28.00 21.00 Buy 4 bottles, price each 24.00 18.00 01002 1000RAL** - 180 tabs 50.00 37.50 00563 IRON PROTEIN PLUS - 300 mg, 100 caps 24.00 18.00 BUY 4 bottles, price each 22.00 16.50 01492 IRVINGIA WIPHAS 5™ - 120 veg, caps 56.00 42.00 CALORIE CONTROL COMPLEX (GPTIMIZED) 56.00 42.00 BUY 4 bottles, price each 48.00 36.00 J, K W 18.00 19.50 MO056 JARRO-DOPHILUS EPS** - 60 veg, caps \$21.95 \$16.46 MO066 JARRO-DOPHILUS EPS** - 60 veg, caps \$21.95 \$16.46 MO0700 KRULL HEALTHY JOINT FORMULA - 30 softgels 23.00 17.25 M0100 KILL LIEALTHY JOINT FORMULA - 30 softgels 33.95 25.46 00150 (MKO) KRILL OIL - 60 softgels 33.95 25.46 00316 KYOLIC* GARLE FORMULA 102 - 200 caps 23.95 17.21 BUY 4 bottles, price each 20.50	01021	INTACT DIGEST™ - 8 fl oz	35.00	26.25		
Buy 4 bottles, price each 24.00 18.00 0.00084.* - 180 tabs 5.000 37.50 0.0053 1800 PORTER PUIS - 300 mg, 100 caps 24.00 18.00 0.0053 1800 PORTER PUIS - 300 mg, 100 caps 24.00 18.00 0.0053 1800 18.00 0.0053 1800 0.0053 1800 0.0053 18.00 0.0053 18.00 0.0053 18.00 0.0053 18.00 0.0053 18.00 0.0053		Buy 4 bottles, price each	33.00	24.75		
	01292					
		· · · · · · · · · · · · · · · · · · ·	24.00			_
Buy 4 bottles, price each 22.00 16.50			_			
1492 INVINGIA W/PRASE 3" - 120 veg. caps 56.00 42.00	00563					
Buy 4 bottles, price each 48.00 36.00		· · · · · · · · · · · · · · · · · · ·	_			_
Name	01492		56.00	42.00		
		Buy 4 bottles, price each	48.00	36.00		
Name		J, K				
Buy 4 bottles, price each 23.00 17.25	00056	JARRO-DOPHILUS EPS™ - 60 veg. caps	\$21.95	\$16.46		
#01600 RRILL HEALTHY JOINT FORMULA - 30 softgels 32.00 24.00 Buy 4 bottles, price each 29.00 21.75 21.75 20.00 21.75 20.00 21.75 20.00 21.75 20.00 21.75 20.00 21.75 20.00 21.75 20.00 21.75 20.00 21.75 20.00 21.75 20.00 21.75 20.00 21.75 20.00 21.75 20.00 21.75 20.00 21.75 20.00 21.75 20.00 20.50 21.75 20.00 20.50 21.79 20.50 21.538 20.00 20.50 21.538 20.00 20.50 21.538 20.00 20.50 21.538 20.00 20.50 21.538 20.00 20.50 21.538 20.00 20.50 21.538 20.00 20.50 21.55 20.50 21.55 20.50 21.55 20.50 21.55 20.50 21.55 20.50 21.55 20.50 21.55 20.50 21.55 20.50 21.55 20.50 21.55 20.50 21.55 20.50 21.55 20.50 21.55 20.50 21.55 20.50 21.55 21.55 20.50 21.55	01224	K w/ADVANCED K2 COMPLEX (SUPER) - 90 softgels	26.00	19.50		
Buy 4 bottles, price each 29.00 21.75		Buy 4 bottles, price each	23.00	17.25		
0.0010 0.000 0.	#01600	KRILL HEALTHY JOINT FORMULA - 30 softgels	32.00	24.00		
01050 (NKO) KRILL OIL - 60 softgels 33.95 25.46 00316 KYOLIC® GARLIC FORMULA 102 - 200 caps 23.95 17.96 Buy 4 bottles, price each 20.50 15.38 00214 KYOLIC® GARLIC FORMULA 105 - 200 caps 22.95 17.21 Buy 4 bottles, price each 18.25 13.69 00789 KYOLIC® RESERVE - 600 mg, 120 caps 24.75 18.56 Buy 4 bottles, price each 21.45 16.09 L		Buy 4 bottles, price each	29.00	21.75		
Not	01050		33.95	25.46		
Buy 4 bottles, price each 20.50 15.38		· · · · · · · · · · · · · · · · · · ·				\vdash
Note	00010		-			
Buy 4 bottles, price each 18.25 13.69	00214					
Note	00214		-			
Buy 4 bottles, price each	00780					
L Doc Latifum Lati	00703		-			
Description		· · · · · · · · · · · · · · · · · · ·	21.40	10.09		
Buy 4 bottles, price each 36.00 27.00	00510		¢40.00	¢20.00		
D0017	00513		-			
Buy 4 jars, price each 15.75 11.81	00017					
Description	00017					
Buy 4 jars, price each 12.50 9.38	00000					
D1655 LIFE EXTENSION MIX™ - 315 tablets 98.00 73.50	00020					
Buy 4 bottles, price each Buy 10 bottles, price each Buy 10 bottles, price each Buy 10 bottles, price each Buy 4 bottles, price each Buy 4 bottles, price each Buy 10 bottles, price each Buy 4 bottles, price each Buy 4 bottles, price each Buy 10 bottles, price each Buy 3 bottles, price each Buy 4 bottles, price each Buy 10 bottles, price each Buy 4 bottles, price each Buy 4 bottles, price each Buy 10 bottles, price each Buy 4 bottles, price each Buy 4 bottles, price each Buy 4 bottles, price each Buy 10 bottles, price each Buy 4 bottles, price each Buy 10 bottles, price each	01655					
Buy 10 bottles, price each 01657 LIFE EXTENSION MIX™ W/EXTRA NIACIN - 315 tablets Buy 4 bottles, price each Buy 10 bottles, price each Buy 4 bottles, price each Buy 10 bottles, price each Buy 4 bottles, price each Buy 4 bottles, price each Buy 10 bottles, price each Buy 4 bottles, price each Buy 4 bottles, price each Buy 4 bottles, price each Buy 10 bottles, price each Buy 4 bottles, price each Buy 4 bottles, price each Buy 4 bottles, price each Buy 10 bottles, price each	01000					
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Buy 10 bottles, price each 01654 LIFE EXTENSION MIX™ - 490 caps Buy 4 bottles, price each Buy 10 bottles, price each Buy 4 bottles, price each Buy 10 bottles, price each Buy 4 bottles, price each Buy 10 bottles, price each	01031	· · · · · · · · · · · · · · · · · · ·				
D1654 LIFE EXTENSION MIX™ - 490 caps 110.00 82.50 82.50 82.00 73.50 82.50 8						
Buy 4 bottles, price each 98.00 73.50	01654	* * * * * * * * * * * * * * * * * * * *	_			\vdash
Buy 10 bottles, price each 01656 LIFE EXTENSION MIX™ POWDER - 14.81 oz Buy 4 bottles, price each Buy 10 bottles, price each Buy 4 bottles, price each Buy 10 bottles, price each Buy 4 bottles, price each Buy 10 bottles, price each	01004	· · · · · · · · · · · · · · · · · · ·				
Buy 4 bottles, price each Buy 10 bottles, price each Buy 4 bottles, price each Buy 10 bottles, price each Buy 4 bottles, price each Buy 10 bottles, pri						
Buy 4 bottles, price each Buy 10 bottles, price each Buy 10 bottles, price each 172.00 172.00 172.00 173.50 184.50 185.00	01656		_			
Buy 10 bottles, price each 72.00 54.00 01665 LIFE EXTENSION MIX™ - 315 tablets w/o copper 98.00 73.50 Buy 4 bottles, price each 86.00 64.50 Buy 10 bottles, price each 69.50 52.13 01667 LIFE EXTENSION MIX™ W/EXTRA NIACIN 315 tablets w/o copper 98.00 73.50 Buy 4 bottles, price each 86.00 64.50 Buy 10 bottles, price each 69.50 52.13 01664 LIFE EXTENSION MIX™ - 490 caps w/o copper 110.00 82.50 Buy 4 bottles, price each 98.00 73.50 Buy 10 bottles, price each 85.00 63.75	01000					
D1665 LIFE EXTENSION MIX™ - 315 tablets w/o copper 98.00 73.50 Buy 4 bottles, price each 86.00 64.50 Buy 10 bottles, price each 69.50 52.13 01667 LIFE EXTENSION MIX™ W/EXTRA NIACIN 315 tablets w/o copper 98.00 73.50 Buy 4 bottles, price each 86.00 64.50 Buy 10 bottles, price each 69.50 52.13 01664 LIFE EXTENSION MIX™ - 490 caps w/o copper 110.00 82.50 Buy 4 bottles, price each 98.00 73.50 Buy 10 bottles, price each 85.00 63.75						
Buy 4 bottles, price each 86.00 64.50 Buy 10 bottles, price each 69.50 52.13 01667 LIFE EXTENSION MIX™ W/EXTRA NIACIN 315 tablets w/o copper 98.00 73.50 Buy 4 bottles, price each 86.00 64.50 Buy 10 bottles, price each 69.50 52.13 01664 LIFE EXTENSION MIX™ - 490 caps w/o copper 110.00 82.50 Buy 4 bottles, price each 98.00 73.50 Buy 10 bottles, price each 85.00 63.75	01665		_			\vdash
Buy 10 bottles, price each 69.50 52.13 01667 LIFE EXTENSION MIX™ W/EXTRA NIACIN 315 tablets w/o copper 98.00 73.50 Buy 4 bottles, price each 86.00 64.50 Buy 10 bottles, price each 69.50 52.13 01664 LIFE EXTENSION MIX™ - 490 caps w/o copper 110.00 82.50 Buy 4 bottles, price each 98.00 73.50 Buy 10 bottles, price each 85.00 63.75	2.000					
D1667 LIFE EXTENSION MIX™ W/EXTRA NIACIN 315 tablets w/o copper 98.00 73.50 86.00 64.50 86.00 64.50 86.00 64.50 86.00 69.50 52.13 86.00 69.50 52.13 86.00 69.50						
Buy 4 bottles, price each 86.00 64.50 Buy 10 bottles, price each 69.50 52.13 01664 LIFE EXTENSION MIX™ - 490 caps w/o copper 110.00 82.50 Buy 4 bottles, price each 98.00 73.50 Buy 10 bottles, price each 85.00 63.75	01667	, , , ,				\vdash
Buy 10 bottles, price each 69.50 52.13 01664 LIFE EXTENSION MIX™ - 490 caps w/o copper 110.00 82.50 Buy 4 bottles, price each 98.00 73.50 Buy 10 bottles, price each 85.00 63.75		**				
01664 LIFE EXTENSION MIX™ - 490 caps w/o copper 110.00 82.50 Buy 4 bottles, price each 98.00 73.50 Buy 10 bottles, price each 85.00 63.75						
Buy 4 bottles, price each 98.00 73.50 Buy 10 bottles, price each 85.00 63.75	01664					
Buy 10 bottles, price each 85.00 63.75						

No.		Retail Each	Member Each	uty	1
01666	LIFE EXTENSION MIX™ POWDER - 14.81 oz w/o copper	\$98.00	\$73.50		ſ
	Buy 4 bottles, price each	86.00	64.50		ĺ
	Buy 10 bottles, price each	72.00	54.00		L
00263	LIFE FLORA™ - 300 mg, 120 caps	20.50	15.38		L
	Buy 4 bottles, price each	18.75	14.06		ļ
01377	LIFESHIELD® BREATHE™ - 60 veg. caps	34.95	26.21		L
01349	LIFESHIELD® CORDYCEPS - 60 veg. caps	34.95	26.21		L
01314	LIFESHIELD® IMMUNITY™ - 60 veg. caps	39.95	29.96		
01339	LIFESHIELD® REISHI™ - 60 veg. caps	34.95	26.21		Γ
01608	LIVER EFFICIENCY FORMULA - 30 veg. caps	18.00	13.50		Γ
	Buy 4 bottles, price each	16.00	12.00		
01227	LIVER FORCE - 30 veg. caps	34.95	26.21		T
01639	5-LOX INHIBITOR W/APRESFLEX™ - 100 mg, 60 veg. caps	22.00	16.50		t
	Buy 4 bottles, price each	20.00	15.00		İ
01013	L-LYSINE - 620 mg, 100 caps	9.00	6.75		t
	Buy 4 bottles, price each	8.00	6.00		t
00129	L-LYSINE POWDER - 300 grams	16.00	12.00		t
00123		13.75	10.31		ł
01470	Buy 4 bottles, price each LURALEAN® CAPS SPECIAL PROPOLMANNAN	28.00	21.00		H
01470	PARTICLE SIZE - 120 veg. caps	20.00	21.00		l
	Buy 4 bottles, price each	25.00	18.75		L
00455	LYCOPENE EXTRACT (MEGA) - 15 mg, 90 softgels	35.00	26.25		L
	Buy 4 bottles, price each	30.00	22.50		
	M				
01369	MAGNESIUM CAPS - 500 mg, 100 veg. caps	\$10.00	\$7.50		Γ
	Buy 4 bottles, price each	9.00	6.75		l
00502	MAGNESIUM CITRATE - 160 mg, 100 caps	9.00	6.75		T
	Buy 4 bottles, price each	7.50	5.63		ſ
00704	MAITAKE™ SX-FRACTION - 90 veg. tablets	49.95	37.46		t
00547	MELATONIN - 300 mcg, 100 caps	5.75	4.31		t
	Buy 4 bottles, price each	5.00	3.75		İ
01083	MELATONIN - 500 mcg, 200 veg. caps	18.00	13.50		t
0.000	Buy 4 bottles, price each	16.00	12.00		t
00329	MELATONIN - 1 mg, 60 caps	5.00	3.75		ł
00023	Buy 4 bottles, price each	4.63	3.47		ł
00220	*				ł
00330	MELATONIN - 3 mg, 60 caps	8.00	6.00		H
04000	Buy 4 bottles, price each	6.88	5.16		H
01086	MELATONIN - 3 mg, 60 time-release veg. caps	10.50	7.88		ŀ
	Buy 4 bottles, price each	9.38	7.04		ļ
00331	MELATONIN - 10 mg, 60 caps	28.00	21.00		ŀ
	Buy 4 bottles, price each	24.00	18.00		ļ
00332	MELATONIN - 3 mg, 60 lozenges	8.00	6.00		ļ
	Buy 4 bottles, price each	6.88	5.16		ļ
01087	MELATONIN TIME RELEASE - 300 mcg, 100 veg. caps	6.25	4.69		L
	Buy 4 bottles, price each	5.63	4.22		
01088	MELATONIN TIME RELEASE - 750 mcg, 60 veg. caps	5.75	4.31		ſ
	Buy 4 bottles, price each	5.00	3.75		ſ
01009	MEMORY UPGRADE™ - 600 grams powder	26.95	20.21		t
00536	METHYLCOBALAMIN - 1 mg, 60 lozenges (vanilla)	9.95	7.46		f
	Buy 4 bottles, price each	8.00	6.00		ĺ
					L

No.		Retail Each	Member Each	Qty	Total
00537	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	_	
50100	Buy 4 bottles, price each	26.33	19.75		
01522	MILK THISTLE (CERTIFIED EUROPEAN) - 750 mg, 60 veg. caps	34.00	25.50		
31022	Buy 4 bottles, price each	30.00	22.50		
01517	MILK THISTLE (CERTIFIED EUROPEAN) - 120 veg. caps	52.00	39.00		
31011	Buy 4 bottles, price each	48.00	36.00		
00623	MINERAL FORMULA FOR MEN - 100 caps	15.00	11.25	_	
00020	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	_	
J0024	· · · · · · · · · · · · · · · · · · ·	12.50	9.38		
	Buy 4 bottles, price each	10.83	8.13		
1111	Buy 12 bottles, price each			_	
01315	MIRAFORTE w/STANDARDIZED LIGNANS (SUPER) - 120 caps	62.00	46.50		
04.500	Buy 4 bottles, price each	56.00	42.00	\vdash	
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		
00000	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		
1279	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		_	
00066			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		
0712	NATURAL ESTROGEN w/POMEGRANATE EXTRACT - 60 caplets	38.00	28.50		
	Buy 4 bottles, price each	33.00	24.75		
)1221	NATURAL FEMALE SUPPORT - 30 veg. caps	28.00	21.00	\vdash	
, ,	Buy 4 bottles, price each	24.00	18.00		
11/171				\vdash	
)1471	NATURAL GLUCOSE ABSORPTION CONTROL - 60 veg. caps	39.00	29.25		
	Buy 4 bottles, price each	36.00	27.00		<u> </u>
00698	NATURAL RELIEF 1222™ - 2 OZ	28.00	21.00		
	Buy 4 tubes, price each	25.00	18.75		
1084	NATURAL SLEEP® - 3 mg, 60 veg. caps	12.99	9.74		
	Buy 4 bottles, price each	10.00	7.50		

Buyers Club Order Form

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No.		Retail Each	Member Each	Qty	Tota
	N CONTINUED				
01507	natural sleep® (enhanced) w/ melatonin- 30 caps	\$22.00	\$16.50		
	Buy 4 bottles, price each	20.00	15.00		
01511	NATURAL SLEEP® (ENHANCED) W/O MELATONIN - 30 caps	20.00	15.00		
	Buy 4 bottles, price each	18.00	13.50		
01085	NATURAL SLEEP MELATONIN® - 5 mg, 60 veg. caps	18.00	13.50		
	Buy 4 bottles, price each	16.00	12.00		
00987	NATURAL STRESS RELIEF - 30 veg. caps	28.00	21.00		
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Buy 4 bottles, price each	24.00	18.00		
01603	NEURO-MAG™ MAGNESIUM L-THREONATE - 90 veg. caps	40.00	30.00		
31000	Buy 4 bottles, price each	36.00	27.00		
01602	NEURO-MAG™ THREONATE W/CALCIUM & VITAMIN D 205 grams - Lemon flavor	40.00	30.00		
	Buy 4 bottles, price each	36.00	27.00		
01076	NEW FACE SOLUTION - 1.7 oz bottle	54.00	40.50		
	Buy 4 bottles, price each	49.00	36.75		
00373	NO-FLUSH NIACIN - 800 mg, 100 caps	19.00	14.25		
	Buy 4 bottles, price each	17.00	12.75		
01035	NUTRIM - 170 grams powder	25.95	19.46		
	0				
01623	OLIVE LEAF VASCULAR SUPPORT - 500 mg, 60 veg. caps	\$22.00	\$16.50		
	Buy 4 bottles, price each	20.00	15.00		
01518	OMEGA-3 CHEWABLES - 60 softchews, 120 mg EPA/DHA	24.00	18.00		
	Buy 4 pouches, price each	22.00	16.50		
01483	OMEGA 3 EPA/DHA w/SESAME LIGNANS & OLIVE FRUIT EXTRACT (SUPER) - 60 softgels	18.00	13.50		
	Buy 4 bottles, price each	16.00	12.00		
01482	OMEGA 3 EPA/DHA w/SESAME LIGNANS & OLIVE FRUIT EXTRACT (SUPER)- 120 softgels	32.00	24.00		
	Buy 4 bottles, price each	28.00	21.00		
	Buy 10 bottles, price each	24.90	18.68		
01484	OMEGA 3 EPA/DHA W/SESAME LIGNANS & - 120 enteric coated softgels OLIVE FRUIT EXTRACT (SUPER)	34.00	25.50		
	Buy 4 bottles, price each	31.00	23.25		
	Buy 10 bottles, price each	28.00	21.00		
01619	OMEGA 3 EPA/DHA W/SESAME LIGNANS & -240 softgels OLIVE FRUIT EXTRACT (SUPER) (SMALL SOFTGEL) Buy 4 bottles, price each	32.00 28.00	24.00		
	Buy 10 bottles, price each	24.90	18.68		
01601	ONE-PER-DAY - 60 veg. tablets	22.00	16.50		
	Buy 4 bottles, price each	20.00	15.00		
01328	ONLY TRACE MINERALS - 90 caps	15.00	11.25		
	Buy 4 bottles, price each	12.50	9.38		
00915	OPTIZINC® - 30 mg, 90 veg. caps	5.95	4.46		
	Buy 4 bottles, price each	5.00	3.75		
01070	ORGANIC TOTAL BODY CLEANSE™ - 14-day supply	34.99	26.24		
. 1010	P	34.33	20.24		
00107	PABA CAPS - 500 mg, 100 caps	\$15.42	\$11.57		
	Buy 4 bottles, price each	13.59	10.19		
00073	PANCREATIN - 500 mg, 50 caps	13.22	9.92		
	Buy 4 bottles, price each	12.12	9.09		
01323	PEAK ATP® WITH GLYCOCARN® - 60 veg. caps	59.00	44.25		
, 1020					
00342	Buy 4 bottles, price each PECTA SOL-C® MODIFIED CITRUS PECTIN - 454 grams powder	56.00 99.95	42.00 74.96		
,uJ4Z	Buy 4 jars, price each	95.70	71.78		

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	29.95	22.46		
	Buy 4 bottles, price each	27.00	20.25		
00368	PHOSPHATIDYLSERINE CAPS - 100 mg, 100 caps	54.00	40.50		
	Buy 4 bottles, price each	48.00	36.00		
00561	POLICOSANOL - 10 mg, 60 tablets	24.00	18.00		
	Buy 6 bottles, price each	18.00	13.50		
01423	POMEGRANATE™ (FULL-SPECTRUM) - 30 softgels	24.00	18.00		
01420	Buy 4 bottles, price each	21.00	15.75		
00956	POMEGRANATE EXTRACT - 30 veg. caps	19.50	14.63		
00930	Buy 4 bottles, price each	17.55	13.16		
00957	POMEGRANATE JUICE CONCENTRATE - 16 oz. liquid	25.95	19.46		
00331	Buy 4 bottles, price each	24.00	18.00		
00577	POTASSIUM IODIDE - 1 box, 14 tablets	6.95	5.21	_	
50511	Buy 4 boxes, price each	5.25	3.94		
01500	PQQ CAPS W/BIOPQQ™ - 10 mq, 30 veq. caps		18.00	_	
01000	Buy 4 bottles, price each	24.00	16.50		
00302	PREGNENOLONE - 50 mg, 100 caps	24.00	18.00		
00002		19.00	14.25		
00700	Buy 4 bottles, price each PREGNENOLONE - 100 mg, 100 caps	26.00	19.50	\vdash	
00700	Buy 4 bottles, price each	22.50	16.88		
n1272	PRELOX® NATURAL SEX FOR MEN® - 60 tablets	52.00	39.00		
†01373	Buy 4 bottles, price each	48.00	36.00		
00571	PRIMAL DEFENSE™ - 90 caplets	49.95	37.46		
JUJ1 1	-	48.50	36.38		
01019	Buy 4 bottles, price each	78.95	59.21		
01329	PRIMAL DEFENSE™ - 180 caplets	25.95	19.46		
01329	PROBIOTIC ALL-FLORA® - 60 veg. caps	30.95	23.21		
01324	PROBIOTIC ANTI-AGING™ - 90 veg. caps	29.95	22.46		
01324	PROBIOTIC CLEANSE™ - 90 veg. caps		23.21		
00525	PROBIOTIC COLON™ - 90 veg. caps PROBOOST THYMIC PROTEIN A™ - 4 mcg, 30 packets	30.95 72.00	54.00	_	
00323	Buy 4 boxes, price each	70.00	52.50		
00869	PRO FEM CREAM - 2 fl oz (Progesterone Cream)	32.00	24.00		
00003	Buy 4 bottles, price each	29.00	21.75		
01020	PROGREENS® - 15 stick pack	22.50	16.88		
01072	PRO M INTERNAL DEODERIZER - 500 mg, 100 veg. caps	28.00	21.00		
01012	Buy 4 bottles, price each	25.00			
11605		38.00	18.75 28.50	_	
01695	PROSTATE FORMULA W/APRESFLEX™STAND. LIGNANS (ULTRA NAT) 60 softgels	35.00	26.25		
	Buy 4 bottles, price each Buy 12 bottles, price each	32.00	24.00		
01092	PROTEIN - VANILLA - (Enhanced Life Extension) -1000 grams powder	50.00	37.50	\vdash	
J 1UJZ	Buy 4 bottles, price each	48.00	36.00		
01093	PROTEIN - CHOCOLATE - (Enhanced Life Extension) -1000 grams powder	50.00	37.50	\vdash	
01093		48.00			
11004	Buy 4 bottles, price each		36.00	-	
01094	PROTEIN - NATURAL - (Enhanced Life Extension) -1000 grams powder	50.00	37.50		
01007	Buy 4 bottles, price each	48.00	36.00	\vdash	
01095	PROTEIN - BERRY - (Enhanced Life Extension) -1000 grams powder	50.00	37.50		
ากวกก	Buy 4 bottles, price each	48.00	36.00	H	
00290	PROTEIN - VANILLA - (Designer Whey) 2 lbs powder	42.49	31.87		
20000	Buy 4 bottles, price each	38.50	28.88	\vdash	
00282	PROTEIN - CHOCOLATE - (Designer Whey) 2 lbs powder	42.49	31.87		
	Buy 4 bottles, price each	38.50	28.88	\vdash	
	PROTEIN - NATURAL - (Designer Whey) 2 lbs powder	42.49	31.87		
	, , , , ,		28.88		
00283	Buy 4 bottles, price each	38.50			
00283 01508	Buy 4 bottles, price each PTEROPURE™ - 50 mg Pterostilbene 60 veg. caps	32.00	24.00		
00283	Buy 4 bottles, price each				

101075 PURE PLANT PROTEIN - Natural Varilla 450 grams powder \$36.00 \$27.00 \$27.00 \$27.00 \$27.00 \$29.4 jars, price each \$30.00 \$24.75 \$20.00	No.		Retail Each	Member Each	Qty	Total
10109	01075	PURE PLANT PROTEIN - Natural Vanilla 450 grams powder	\$36.00	\$27.00		
Day 4 bottles, price each 18.00 13.50 16.50		Buy 4 jars, price each	33.00	24.75		
101210	01209	PUMPKIN SEED EXTRACT (WATER-SOLUBLE) - 60 veg. caps	20.00	15.00		
Buy 4 bottles, price each 20.00 15.00		Buy 4 bottles, price each	18.00			
	01210					
101217 PYRIDOXAL S'-PHOSPHATE - 100 mg, 60 veg, caps 19.80 14.85 19.80 14.85 19.80 14.85 19.80 14.85 19.80 14.85 19.80 14.85 19.80 14.85 19.80 14.85 19.80 14.85 19.80 14.85 19.80 14.85 19.80 14.85 19.80 14.85 19.80 14.85 19.80 14.85 19.80 14.85 19.80 14.85 19.80 14.85 19.80 14.85 19.80 19.80 12.75 12.						
Day 4 bottles, price each		<u> </u>				
Output O	01217					
01309 QUERCETIN (OPTIMIZED) - 250 mg, 60 veg. caps S18.00 S13.50			19.80	14.85		
Buy 4 bottles, price each		- 1				
17.50 13.13	01309	QUERCETIN (OPTIMIZED) - 250 mg, 60 veg. caps	\$18.00	\$13.50		
New York Name N		Buy 4 bottles, price each	17.00	12.75		
00060 RED YEAST RICE EXTENDED RELEASE - 30 veg. tablets 21.50 16.13 00605 REGIMINT - 60 enteric-coated caps 19.95 14.96 Buy 4 bottles, price each 18.67 14.00 01448 REJUVENEX® BODY LOTION - 6 oz 24.00 18.00 Buy 8 tubes, price each 19.80 14.85 Buy 8 tubes, price each 17.00 12.75 Buy 8 bottles, price each 60.00 45.00 Buy 2 bottles, price each 60.00 45.00 Buy 2 bottles, price each 60.00 45.00 Buy 4 bottles, price each 55.00 41.25 Buy 4 bottles, price each 55.00 41.25 Buy 8 bottles, price each 49.91 37.43 01220 REJUVENER® (LITRA) - 2 oz 52.00 39.00 Buy 4 jars, price each 44.00 33.00 Buy 4 jars, price each 39.93 29.95 00676 REJUVENIGHT (LITRA) - 2 oz 39.95 29.96 Buy 4 jars, price each 38.00 28.50 01413 RESVERTATIOL W/PTEROSTIL	01030	RED YEAST RICE (Bluebonnet)- 600 mg, 60 veg. caps	17.50	13.13		
REGIMINT - 60 enteric-coated caps 19.95 14.96	00979	RED YEAST RICE (Nature's Plus)- 600 mg, 60 veg. caps	23.95	17.96		
Buy 4 bottles, price each 18.67 14.00 18.00 18.00 19.80 14.85	00060	RED YEAST RICE EXTENDED RELEASE - 30 veg. tablets	21.50	16.13		
Name	00605	REGIMINT - 60 enteric-coated caps	19.95	14.96		
Buy 4 tubes, price each 19.80 14.85		Buy 4 bottles, price each	18.67	14.00		
Buy 8 tubes, price each 17.00 12.75	01448	REJUVENEX® BODY LOTION - 6 OZ	24.00	18.00		
REJUVENEX® FACTOR - 1.7 oz airless pump 65.00 48.75 Buy 2 bottles, price each 60.00 45.00 Buy 4 bottles, price each 55.00 41.25 Buy 8 bottles, price each 49.91 37.43 01220 REJUVENEX® (ULTRA) - 2 oz 52.00 39.00 Buy 2 jars, price each 48.00 36.00 Buy 4 jars, price each 44.00 33.00 Buy 8 jars, price each 44.00 33.00 Buy 8 jars, price each 44.00 33.00 Buy 4 jars, price each 39.93 29.95 00676 REJUVENIGHT (ULTRA) - 2 oz 39.95 29.96 Buy 4 jars, price each 36.00 27.00 00706 REJUVENIGHT W.PROGESTERONE (ULTRA) - 2 oz 42.00 31.50 Buy 4 jars, price each 38.00 28.50 01413 RESVERATROL W.PTEROSTILBENE - 20 mg, 60 veg. caps 24.00 18.00 Buy 4 bottles, price each 22.00 16.50 01410 RESVERATROL W.PTEROSTILBENE - 100 mg, 60 veg. caps 36.00 27.00 Buy 4 bottles, price each 32.00 24.00 01430 RESVERATROL W.PTEROSTILBENE - 100 mg, 60 veg. caps 36.00 27.00 Buy 4 bottles, price each 32.00 24.00 01430 RESVERATROL W.SYNERGISTIC GRAPE-BERRY ACTIVES (OPTIMIZED) - 250 mg, 60 veg. caps 46.00 34.50 Buy 4 bottles, price each 41.33 31.00 00889 RHODIOLA EXTRACT - 250 mg, 60 veg. caps 11.75 8.81 Buy 4 bottles, price each 10.58 7.94 00972 (D) RIBOSE POWDER - 150 grams 27.50 20.63 Buy 4 jars, price each 24.75 18.56 01473 (D) RIBOSE POWDER - 150 grams 27.50 20.63 Buy 4 bottles, price each 28.00 21.00 01609 RICH REWARDS BERAKFAST GROUND COFFEE - 12 oz. bag 13.00 9.75 01610 RICH REWARDS BERAKFAST GROUND COFFEE - 12 oz. bag 14.00 10.50 01208 R-LIPOIC ACID (SUPER) - 300 mg, 60 veg. caps 49.00 36.75 Buy 4 bottles, price each 45.00 33.75 00070 RNA CAPSULES - 500 mg, 100 caps 59.00 44.25 00917 ROSMARINIC ACID EXTRACT - 60 veg. caps 59.00 44.25		Buy 4 tubes, price each	19.80	14.85		
Buy 2 bottles, price each 60.00 45.00 Buy 4 bottles, price each 55.00 41.25 Buy 8 bottles, price each 55.00 41.25 Buy 8 bottles, price each 49.91 37.43 57.4		Buy 8 tubes, price each	17.00	12.75		
Buy 4 bottles, price each 49.91 37.43	00918	REJUVENEX® FACTOR - 1.7 oz airless pump	65.00	48.75		
Buy 8 bottles, price each 49.91 37.43		Buy 2 bottles, price each	60.00	45.00		
Buy 8 bottles, price each 49.91 37.43		Buy 4 bottles, price each	55.00	41.25		
D1220 REJUVENIEX® (ULTRA) - 2 oz S2.00 39.00 Buy 2 jars, price each 48.00 36.00 Buy 4 jars, price each 39.93 29.95 D0676 REJUVENIGHT (ULTRA) - 2 oz 39.95 29.96 Buy 4 jars, price each 36.00 27.00 D0706 REJUVENIGHT (WLTRA) - 2 oz 39.95 29.96 Buy 4 jars, price each 36.00 27.00 D0706 REJUVENIGHT W/PROGESTERONE (ULTRA) - 2 oz 42.00 31.50 Buy 4 jars, price each 38.00 28.50 D1413 RESVERATROL W/PTEROSTILBENE - 20 mg, 60 veg. caps 24.00 18.00 Buy 4 bottles, price each 22.00 16.50 D1410 RESVERATROL W/PTEROSTILBENE - 100 mg, 60 veg. caps 36.00 27.00 D1410 RESVERATROL W/PTEROSTILBENE - 100 mg, 60 veg. caps 36.00 27.00 D1410 RESVERATROL W/PTEROSTILBENE - 100 mg, 60 veg. caps 36.00 27.00 D1410 RESVERATROL W/SYNERGISTIC GRAPE-BERRY ACTIVES (OPTIMIZED) - 250 mg, 60 veg. caps 46.00 34.50 D1410 D1		*	49.91	37.43		
Buy 2 jars, price each 48.00 36.00	01220			_		
Buy 4 jars, price each 33.00						
Buy 8 jars, price each 39.93 29.95						
00676 REJUVENIGHT (ULTRA) - 2 oz 39.95 29.96 Buy 4 jars, price each 36.00 27.00 27.00						
Buy 4 jars, price each 36.00 27.00	00676			_		
00706 REJUVENIGHT W/PROGESTERONE (ULTRA) - 2 oz 42.00 31.50 38.00 28.50 38.00 28.50 38.00 28.50 38.00 28.50 38.00 28.50 38.00 28.50 38.00 28.50 38.00 28.50 38.00 28.50 38.00 28.50 38.00 28.50 38.00 28.50 38.00 28.50 38.00 28.50 38.00 28.50 38.00 28.50 38.00 28.50 38.00 29.00 38.00 27.00 39.00 29.00 39.00 29.00 39.00 29.00 39.00 29.00 39.00 29.00 39.00 29.00 39.00 29.00 39.00 29.00 39.00 29.00 39.00 29.00 39.00 29.00 39.00 39.50 39.00 39.50 39.00 39.50 39.00 39.50 39.00	00070					
Buy 4 jars, price each 38.00 28.50	00700			_		
01413 RESVERATROL W/PTEROSTILBENE - 20 mg, 60 veg. caps 24.00 18.00 Buy 4 bottles, price each 22.00 16.50	00706					
Buy 4 bottles, price each 22.00 16.50						
01410 RESVERATROL W/PTEROSTILBENE - 100 mg, 60 veg. caps 36.00 27.00	01413					
Buy 4 bottles, price each 32.00 24.00				_		
D1430 RESVERATROL W/SYNERGISTIC GRAPE-BERRY ACTIVES (OPTIMIZED) - 250 mg, 60 veg. caps 46.00 34.50 Buy 4 bottles, price each 41.33 31.00	01410					
SRAPE-BERRY ACTIVES (OPTIMIZED) - 250 mg, 60 veg. caps		Buy 4 bottles, price each	32.00			
00889 RHODIOLA EXTRACT - 250 mg, 60 veg. caps 11.75 8.81 Buy 4 bottles, price each 10.58 7.94 00972 (D) RIBOSE POWDER - 150 grams 27.50 20.63 Buy 4 jars, price each 24.75 18.56 01473 (D) RIBOSE TABLETS - 100 veg. tabs 32.00 24.00 Buy 4 bottles, price each 28.00 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 49.00 36.75 Buy 4 bottles, price each 45.00 33.75 00070 RNA CAPSULES - 500 mg, 100 caps 17.95 13.46 Buy 4 bottles, price each 16.16 12.12 00917 ROSMARINIC ACID EXTRACT - 60 veg. caps 59.00 44.25	01430	RESVERATROL w/SYNERGISTIC GRAPE-BERRY ACTIVES (OPTIMIZED) – 250 mg, 60 veg. caps	46.00	34.50		
Buy 4 bottles, price each 10.58 7.94		Buy 4 bottles, price each	41.33	31.00		
00972 (D) RIBOSE POWDER - 150 grams 27.50 20.63 Buy 4 jars, price each 24.75 18.56 01473 (D) RIBOSE TABLETS - 100 veg. tabs 32.00 24.00 Buy 4 bottles, price each 28.00 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 49.00 36.75 Buy 4 bottles, price each 45.00 33.75 00070 RNA CAPSULES - 500 mg, 100 caps 17.95 13.46 Buy 4 bottles, price each 16.16 12.12 00917 ROSMARINIC ACID EXTRACT - 60 veg. caps 59.00 44.25	00889	RHODIOLA EXTRACT - 250 mg, 60 veg. caps	11.75	8.81		
Buy 4 jars, price each 24.75 18.56		Buy 4 bottles, price each	10.58	7.94		
01473 (D) RIBOSE TABLETS - 100 veg. tabs 32.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 26.00	00972	(D) RIBOSE POWDER - 150 grams	27.50	20.63		
Buy 4 bottles, price each 28.00 21.00		Buy 4 jars, price each	24.75	18.56		
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 49.00 36.75 Buy 4 bottles, price each 45.00 33.75 00070 RNA CAPSULES - 500 mg, 100 caps 17.95 13.46 Buy 4 bottles, price each 16.16 12.12 00917 ROSMARINIC ACID EXTRACT - 60 veg. caps 59.00 44.25	01473	(D) RIBOSE TABLETS - 100 veg. tabs	32.00	24.00		
01610 RICH REWARDS DECAFFEINATED ROAST GROUND COFFEE - 12 oz. bag 14.00 10.50 01208 R-LIPOIC ACID (SUPER) - 300 mg, 60 veg. caps 49.00 36.75 Buy 4 bottles, price each 45.00 33.75 00070 RNA CAPSULES - 500 mg, 100 caps 17.95 13.46 Buy 4 bottles, price each 16.16 12.12 00917 ROSMARINIC ACID EXTRACT - 60 veg. caps 59.00 44.25		Buy 4 bottles, price each	28.00	21.00		
01208 R-LIPOIC ACID (SUPER) - 300 mg, 60 veg. caps 49.00 36.75 Buy 4 bottles, price each 45.00 33.75 00070 RNA CAPSULES - 500 mg, 100 caps 17.95 13.46 Buy 4 bottles, price each 16.16 12.12 00917 ROSMARINIC ACID EXTRACT - 60 veg. caps 59.00 44.25	01609	RICH REWARDS BREAKFAST GROUND COFFEE - 12 oz. bag	13.00	9.75		
Buy 4 bottles, price each 45.00 33.75 00070 RNA CAPSULES - 500 mg, 100 caps 17.95 13.46 Buy 4 bottles, price each 16.16 12.12 00917 ROSMARINIC ACID EXTRACT - 60 veg. caps 59.00 44.25	01610	RICH REWARDS DECAFFEINATED ROAST GROUND COFFEE -12 oz. bag	14.00	10.50		
00070 RNA CAPSULES - 500 mg, 100 caps 17.95 13.46 Buy 4 bottles, price each 16.16 12.12 00917 ROSMARINIC ACID EXTRACT - 60 veg. caps 59.00 44.25	01208	R-LIPOIC ACID (SUPER) - 300 mg, 60 veg. caps	49.00	36.75		
Buy 4 bottles, price each 16.16 12.12 00917 ROSMARINIC ACID EXTRACT - 60 veg. caps 59.00 44.25		Buy 4 bottles, price each	45.00	33.75		
Buy 4 bottles, price each 16.16 12.12 00917 ROSMARINIC ACID EXTRACT - 60 veg. caps 59.00 44.25	00070	RNA CAPSULES - 500 mg, 100 caps	17.95	13.46		
00917 ROSMARINIC ACID EXTRACT - 60 veg. caps 59.00 44.25			16.16	12.12		
	00917					

No.		Retail Each	Member Each	Qty	Total
	S				
01067	SACCHAROMYCES BOULARDII+MOS - 90 veg. caps	\$21.95	\$16.46		
01432	SAFFRON w/SATIEREAL (OPTIMIZED) - 60 veg. caps	36.00	27.00		
	Buy 4 bottles, price each	32.00	24.00		
*00573	SAMBU® GUARD - 175 ml	17.79	14.23		
00358	SAME (S-ADENOSYL-METHIONINE) - 200 mg, 20 enteric coated tablets	16.00	12.00		
	Buy 8 boxes, price each	14.00	10.50		
00453	SAME (S-ADENOSYL-METHIONINE) - 200 mg, 50 enteric coated tablets	36.00	27.00		\vdash
	Buy 4 bottles, price each	32.00	24.00		
00557	SAME (S-ADENOSYL-METHIONINE) - 400 mg, 20 enteric coated tablets	28.00	21.00		\vdash
00001	Buy 6 boxes, price each	24.00	18.00		
01055	SAME (S-ADENOSYL-METHIONINE) – 400 mg, 50 enteric coated tablets	66.00	49.50		\vdash
01000			45.00		
04040	Buy 4 bottles, price each	60.00			-
01043	SEA-IODINE™ - 1000 mcg, 60 veg. caps	8.00	6.00		
0001-	Buy 4 bottles, price each	7.20	5.40		-
00046	SELENIUM - 2 oz dropper bottle	9.95	7.46		
	Buy 4 bottles, price each	9.45	7.09		_
00567	SE-METHYL L-SELENOCYSTEINE - 200 mcg, 100 caps	12.00	9.00		
	Buy 4 bottles, price each	11.00	8.25		_
00318	SERRAFLAZYME - 100 tablets	18.00	13.50		
	Buy 4 bottles, price each	16.00	12.00		
00011	SHAMPOO - 16 fl oz	6.00	4.50		
	Buy 4 bottles, price each	4.75	3.56		
00284	SHARK LIVER OIL (NORWEGIAN) - 1000 mg, 30 softgels	18.00	13.50		
	Buy 4 bottles, price each	16.00	12.00		
00184	SILYMARIN - 100 mg, 50 caps	9.25	6.94		\vdash
	Buy 4 bottles, price each	8.25	6.19		
01502	SKIN RESTORING CERAMIDES w/LIPOWHEAT™ - 30 liquid caps	25.00	18.75		\vdash
01002	Buy 4 bottles, price each	23.00	17.25		
00961		28.00	21.00		\vdash
00901	SODZYME® w/GLISODIN® AND WOLFBERRY - 90 veg. caps				
00057	Buy 4 bottles, price each	24.00	18.00		
00657	SOLARSHIELD SUNGLASSES - 1 pair smoke color	12.99	9.74		
	Buy 2 pairs, price each	11.50	8.63		_
01097	SOY EXTRACT (ULTRA) - 150 veg. caps	87.00	65.25		
	Buy 4 bottles, price each	78.00	58.50		_
00286	SOY PROTEIN CONCENTRATE - 16 oz of powder	12.00	9.00		
	Buy 4 jars, price each	10.63	7.97		
01099	STABILIUM® 200 - 30 caps	30.00	22.50		_
00432	STEVIA EXTRACT - 100 packets, 1 gram each	9.95	7.46		
	Buy 4 boxes, price each	9.00	6.75		
01396	ST. JOHN'S WORT EXTRACT - 300 mg, 60 veg. caps	10.98	8.24		
	Buy 4 bottles, price each	10.00	7.50		
00327	ST. JOHN'S WORT EXTRACT (PLANETARY) - 600 mg, 60 tablets	16.75	12.56		
	Buy 4 bottles, price each	13.85	10.39		
01476	STRONTIUM - 750 mg, 90 veg. caps	20.00	15.00		
	Buy 4 bottles, price each	18.00	13.50		
00971	SUN PROTECTION SPRAY W/BETA GLUCAN - SPF30 - 6 oz	14.95	11.21		
	Buy 4 bottles, price each	13.50	10.13		
00747	SUNGLASSES (OVERXCAST POLARIZED) - gray color, large	27.00	20.25		\vdash
	Buy 2 pairs, price each	21.00	15.75		
00748	SUNGLASSES (OVERXCAST POLARIZED)- gray color, medium	27.00	20.25		\vdash
JUI 7U	Buy 2 pairs, price each	21.00	15.75		

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No.		Retail Each	Member Each	Qty	Tota
	S CONTINUED				
00758	SUPER ABSORBABLE SOY ISOFLAVONES - 60 caps	\$28.00	\$21.00		
	Buy 4 bottles, price each	25.00	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	28.00	21.00		
	Buy 4 bottles, price each	26.00	19.50		
	Buy 12 bottles, price each	24.00	18.00		
01407	SUPER SAW PALMETTO W/BETA-SITOSTEROL - 30 softgels	15.00	11.25		
01407	Buy 12 bottles, price each	12.00	9.00		
00578	SUPER SELENIUM COMPLEX - 200 mcg, 100 caps	12.00	9.00		
00010	Buy 4 bottles, price each	10.00	7.50		
	• • • • • • • • • • • • • • • • • • • •		6.75		
00674	Buy 12 bottles, price each	9.00			
00674	SYTRINOL™ - 60 softgels	32.00	24.00		
	Buy 4 bottles, price each	28.00	21.00		
	T. AUTO CONTINUE - For information places cell				
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04000	1-800-544-4440 or visit www.LifeExtension.com	A/0 ==	A4 1 5 1		
01062	TART CHERRY - 600 mg, 60 caps	\$18.95	\$14.21		
00199	TAURINE - 1000 mg, 50 caps	8.95	6.71		
	Buy 4 bottles, price each	8.00	6.00		
00133	TAURINE POWDER - 300 grams	20.00	15.00		
	Buy 4 bottles, price each	16.88	12.66		
01304	THEAFLAVIN STANDARDIZED EXTRACT - 30 veg. caps	18.00	13.50		
	Buy 4 bottles, price each	16.00	12.00		
00555	(L) THEANINE - 100 mg, 60 caps	24.00	18.00		
	Buy 4 bottles, price each	20.50	15.38		
****01038	THERALAC PROBIOTICS - 30 caps	44.95	33.71		
00224	THYMIC IMMUNE FACTORS - 100 caps	18.00	13.50		
	Buy 4 bottles, price each	14.00	10.50		
00668	THYROID FORMULA™ (METABOLIC ADVANTAGE) - 100 caps	21.95	16.46		
00349	TMG POWDER - 50 grams	14.00	10.50		
	Buy 4 bottles, price each	11.00	8.25		
00359	TMG - 500 mg, 180 tablets	18.00	13.50		
	Buy 4 bottles, price each	15.50	11.63		
00781		38.00	28.50		
	Buy 4 bottles, price each	36.00	27.00		
01400	TOCOTRIENOLS (SUPER-ABSORBABLE) - 60 softgels	30.00	22.50		
	Buy 4 bottles, price each	28.00	21.00		
01278	TOOTHPASTE - 4 oz (Mint)	9.50	7.13		
01210	Buy 4 tubes, price each	8.67	6.50		
01274	TOTAL SUN PROTECTION CREAM W/BETA GLUCAN - 4 OZ	28.00	21.00		
01214	Buy 4 tubes, price each	25.20	18.90		
N1 460	7 1				
01468	TRIPLE ACTION CRUCIFEROUS VEGETABLE EXTRACT- 60 veg. caps	24.00	18.00		
01469	Buy 4 bottles, price each TRIPLE ACTION CRUCIFEROUS VEGETABLE EXTRACT	22.00 32.00	16.50 24.00		
∪ 1 -1 U∂	w/resveratrol -60 veg. caps				
01200	Buy 4 bottles, price each	29.60	22.20		
01386	TRUFIBER® - 180 grams	29.95	22.46		
00866	TRYPTOPURE® L-TRYPTOPHAN - 500 mg, 90 veg. caps	38.00	28.50		
	Buy 4 bottles, price each	34.00	25.50		
01202	TRYPTOPURE® PLUS (OPTIMIZED) - 90 veg. caps	40.00	30.00		
	Buy 4 bottles, price each	36.00	27.00		
01616	TWO-PER-DAY - 60 veg. tablets	10.50	7.88		
	Buy 4 bottles, price each	9.50	7.13		

No.		Retail Each	Member Each	Qty	Total
01615	TWO-PER-DAY - 120 veg. tablets	\$20.00	\$15.00		
	Buy 4 bottles, price each	18.00	13.50		
01614	TWO-PER-DAY - 120 veg. caps	22.00	16.50		
	Buy 4 bottles, price each	20.00	15.00		
00326	L-TYROSINE - 500 mg, 100 tablets	12.50	9.38		
	Buy 4 bottles, price each	11.42	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	\$15.00	\$11.25		
	Buy 4 bottles, price each	12.50	9.38		
00252	VELVET DEER ANTLER – 250 mg, 30 caps	36.00	27.00		
	Buy 4 bottles, price each	34.00	25.50		
00408	venotone - 60 caps	18.95	14.21		
	Buy 4 bottles, price each	16.00	12.00		
01327	VINPOCETINE - 10 mg, 100 tablets	18.00	13.50		
	Buy 4 bottles, price each	14.00	10.50		
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	18.73	14.05		
	Buy 4 bottles, price each	17.00	12.75		
00093	VITAMIN B2 CAPS - 100 mg, 100 caps	14.32	10.74		
	Buy 4 bottles, price each	13.00	9.75		
00096	VITAMIN B3 NIACIN - 1000 mg, 100 caps	12.75	9.56		
	Buy 4 bottles, price each	12.00	9.00		
00372	VITAMIN B3 NIACIN - 500 mg, 100 caps	7.65	5.74		
	Buy 4 bottles, price each	6.65	4.99		
00098	VITAMIN B5 - 500 mg, 100 caps (Pantothenic Acid)	10.50	7.88		
	Buy 4 bottles, price each	9.38	7.04		
00556	VITAMIN B6 - 250 mg, 100 caps	12.50	9.38		
	Buy 4 bottles, price each	11.00	8.25		
00361	VITAMIN B12 - 500 mcg, 100 lozenges	8.75			
	Buy 4 bottles, price each	7.25	5.44		
00927	VITAMIN C WITH DIHYDROQUERCETIN - 1000 mg, 250 tablets	25.50	19.13		
00021	Buy 4 bottles, price each	23.25	17.44		
00084	VITAMIN C (BUFFERED) POWDER - 454.6 grams	23.95	17.96		
00004	Buy 4 bottles, price each	22.00	16.50		
00864	VITAMIN D3 - 2000 IU, 1 fl oz	28.00	21.00		
00004	Buy 4 bottles, price each	25.00	18.75		
00251	VITAMIN D3 - 1000 IU, 250 caps	12.50	9.38	_	
00231					
00713	Buy 4 bottles, price each VITAMIN D3 - 5000 IU, 60 caps	11.25	8.44	_	\vdash
00/13		11.00	8.25		
01/110	Buy 4 bottles, price each	9.90	7.43	_	
01418	VITAMIN D3 - 7000 IU, 60 caps	14.00	10.50		
01070	Buy 4 bottles, price each	12.60	9.45	\vdash	\vdash
01372	VITAMIN D3 w/SEA-IODINE™ - 5000 IU, 60 veg. caps	14.00	10.50		
04.4=-	Buy 4 bottles, price each	12.50	9.38	_	L
01472	VITAMINS D AND K w/SEA-IODINE™ - 60 veg. caps	24.00	18.00		
	Buy 4 bottles, price each	22.00	16.50		
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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 - 60 softgels 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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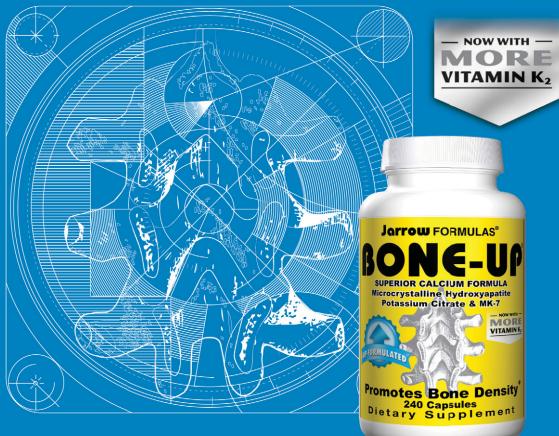


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Curcumin is the health-promoting trace compound derived from the Indian spice **turmeric**. But not all turmeric is alike.

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 <u>twice</u> the support for **immune** health.
- Approximately twice the support for **inflammatory** issues.
- Almost <u>double</u> the **antioxidant** support.

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

Unrivaled 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 <u>one</u> **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.

Life Extension For Europe Unit SUPER BIO-CURCUMIN 400 mg Charley France Charley Sugarant O Waptain Course

Item # 00407

1. Int J Pharmacol. 2009;5(6):333-45.

References

- 2. J Food Nutr Res. 2009;48(3):148-52. 3. Arch Gerontol Geriatr. 2002:34:37-46.
- 3. Arch Gerontol Geriatr. 2002;34:37-46.
- 4. Indian J Pharm Sci. 2008 Jul-Aug;70(4):445-9.
- 5. Bioavailability study of BCM-95® in rats.
 Orcas International Inc. 2006.

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.

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

U.S. Patent Nos. 7,883,728, 7,736,679 and 7,879,373.

To order Super Bio-Curcumin® call 1-800-544-4440 or visit www.LifeExtension.com

How Much Curcumin Are You Absorbing?

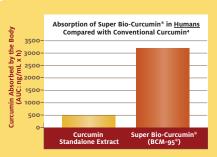


Chart 1. Super Bio-Curcumin® (BCM-95®) showed 6.9 times greater bioavailability (absorption and sustainability over 8 hours) in humans compared with conventional curcumin (as measured by the area under the curve [AUC] in a plot of blood levels against time, that is, the total amount of curcumin absorbed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

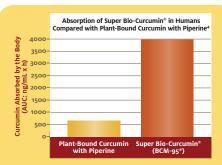


Chart 2. Super Bio-Curcumin® (BCM-95®) showed 6.3 times greater bioavailability (absorption and sustainability over 8 hours) in humans compared with plantbound curcumin with piperine (as measured by the area under the curve [AUC] in a plot of blood levels against time, that is, the total amount of curcumin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

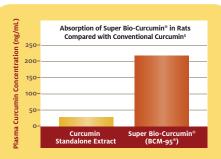


Chart 3. Bioavailability in rats fed with BCM-95[®] is 7.8 times higher than conventional curcumin.



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