

DRUG COMPANY PLEADS GUILTY TO HEALTH FRAUD

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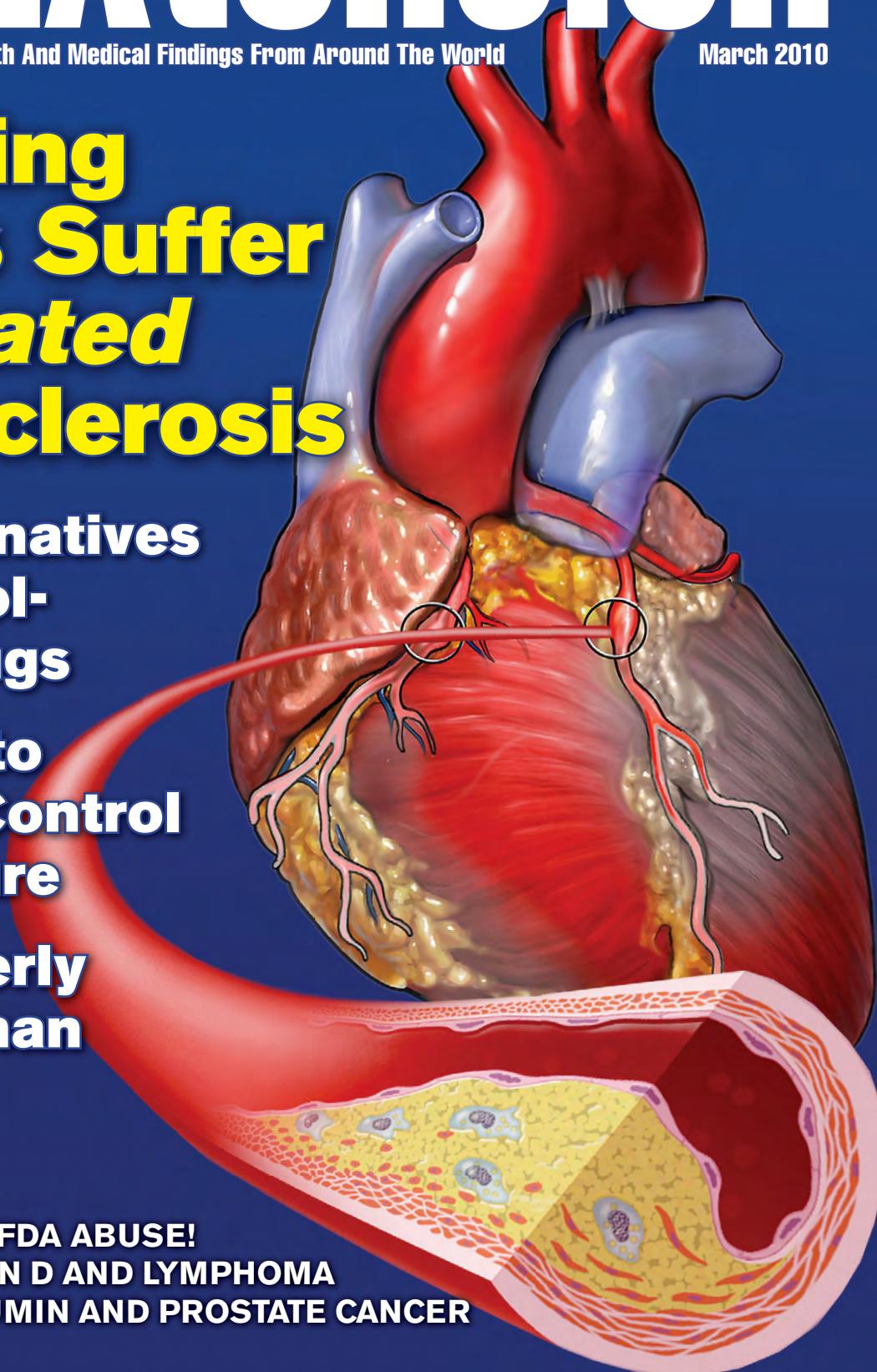
March 2010

Why Aging Humans Suffer Accelerated Atherosclerosis

Natural Alternatives to Cholesterol-Lowering Drugs

Doctors Fail to Adequately Control Blood Pressure

Why The Elderly Need *More* than Statin Drugs



PLUS-
MORE FDA ABUSE!
VITAMIN D AND LYMPHOMA
CURCUMIN AND PROSTATE CANCER

Activate Your Longevity Genes with New CALORIE RESTRICTION MIMETIC Formula

Scientists have *intensely* focused on finding out how calorie restriction so radically extends life span.

In response to reduced calorie intake, beneficial "youth" genes are **activated** while detrimental "senescence" genes are **disabled**. These favorable **gene expression** changes play a critical role in the ability of calorie restriction to slow aging.

The incredible news is that a select group of nutrients has been discovered that trigger many of the same favorable mechanisms (including more youthful **gene expression** patterns) as **caloric restriction**.

Among the most promising **caloric restriction mimics** and enhancers are **resveratrol**, **pterostilbene**, **quercetin**, and **grape seed polyphenols**, along with **black tea extract**. These nutrients have been shown to generate many of the same effects in the body as caloric restriction, without significant dietary modification.¹⁻⁸ In particular, they help "mimic" caloric restriction's favorable impact on **genes** that influence the aging process.¹⁻⁸

A new **Calorie Restriction Mimetic Formula** includes **resveratrol**, **pterostilbene**, **quercetin**, **grape seed polyphenols**, and **black tea extract** to provide even broader-spectrum gene expression support in one nutritional compound. The suggested dose of two capsules each day of the new **Calorie Restriction Mimetic Formula** provides:

Trans-Resveratrol	250 mg
Trans-Pterostilbene	3 mg
Quercetin	150 mg
Black tea extract	300 mg
Grape seed polyphenols	50 mg

A bottle containing 60 vegetarian capsules of the New Calorie Restriction Mimetic Formula retails for \$36. If a member buys four bottles, the cost is reduced to **\$24.75** per bottle.



To order the new **Calorie Restriction Mimetic Formula** call **1-800-544-4440** or visit to www.LifeExtension.com

Note: Those taking other **resveratrol** products may consider switching to this new **Calorie Restriction Mimetic Formula**.

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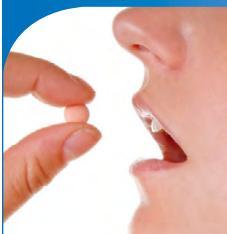
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LifeExtension®

Volume Sixteen / Number Three ■ March 2010

REPORTS



12 HOW MUCH MORE FDA ABUSE CAN WE TOLERATE?

Governments collapse when **ineptitude** and **corruption** reach such egregious magnitudes that citizens have no choice but to **revolt**. A startling exposé, **FDA: Failure, Deception, Abuse**, questions the Agency's ability to scientifically evaluate drug safety and efficacy. The irrefutable facts demand that the FDA be radically reformed—or abolished altogether.



26 LOWER YOUR CHOLESTEROL SAFELY

Many individuals believe they must rely solely on **drugs** to attain healthy cholesterol levels. The truth is that certain natural agents are *just as effective*. Substantiating research details how these natural lipid-lowering nutrients also *reduce triglycerides and increase beneficial HDL*.



50 NATURAL HYPERTENSION MANAGEMENT

One in three Americans suffer from hypertension, one of the most dangerous risk factors for heart disease, strokes, and kidney failure. In traditional cultures however, high blood pressure is rare. Scientific evidence explains why—and offers natural ways to maintain healthy blood pressure that lie beyond the scope of conventional medicine.



64 OPTIMAL ARTHRITIS CONTROL

Beyond debilitating joint pain and swelling, the inflammatory cascade associated with rheumatoid arthritis inflicts *system-wide* damage to the body. Arthritis sufferers, for example, are at **60%** greater risk of dying of heart disease than the general population. New research reveals the power of novel natural agents to disrupt this deadly process and gain control over arthritis.



76 DON'T FALL PREY TO FRAILTY

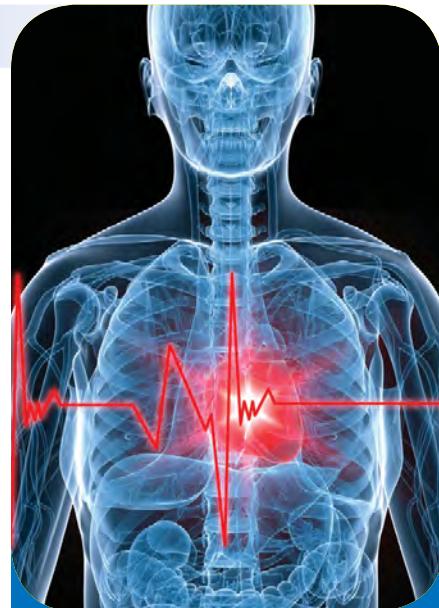
The relentless decline in physical strength and overall performance that comes with aging is far from inevitable. Key nutrients, hormones, and specific dietary measures can ward off frailty and restore youthful health and strength. A set of step-by-step, evidence-based strategies is detailed to supercharge your body and mind for lifelong vitality.

DEPARTMENTS



7 AS WE SEE IT

For thirty years, **Life Extension**® has exposed the unconscionable scientific and financial fraud perpetrated on the American people by drug companies. In an unprecedented development, a pharmaceutical giant has pled *guilty* to a felony with intent to defraud. For those who harbor any misconceptions about the *true* motives behind illicit pharmaceutical practices, we expose fresh evidence of drug company deceit.



38 ON THE COVER

HOW TO REVERSE ATHEROSCLEROSIS

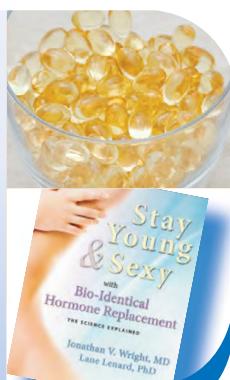
Scientists long ago documented the ability of **HDL** to *cleanse* aging arteries of atherosclerotic plaque. Only recently, however, has the critical role of a little-known **enzyme** been discovered that protects **HDL** functionality in the aged. The assuring news is that nutrients used by most **Life Extension**® members significantly increase blood levels of this HDL-enhancing enzyme.

IN THE NEWS 17

Higher vitamin D levels associated with improved lymphoma survival; less advanced and lethal prostate cancers in coffee drinkers; and more.

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Stay Young & Sexy with Bio-Identical Hormone Replacement: The Science Explained by Dr. Jonathan Wright and Dr. Lane Lenard.



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Saturday 9 am-5 pm, Sunday 12 pm-4 pm

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PUBLISHER • LE Publications, Inc.

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Attn: Letters to the Editor, PO Box 407198, Fort Lauderdale, FL 33340

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The Ultimate Two-Per-Day Tablet

The most comprehensive nutrient formula in the world is **Life Extension Mix**. Some Foundation members, however, prefer to take their nutrients separately and need only a basic multi-nutrient supplement to fill the missing gaps. For many years, these members had to rely on commercial "one-a-day" supplements that provide very low 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

The following table compares the daily dosage of key nutrients included in both the **Life Extension Two-Per-Day Tablet** and Centrum®'s Daily Tablet:

Sample Ingredient Comparison	LIFE EXTENSION TWO-PER-DAY	Centrum®
Vitamin C	500 mg	90 mg
Vitamin E	200 IU (natural)	30 IU (synthetic)
Folic acid	800 mcg	500 mcg
Vitamin B12	300 mcg	6 mcg
Vitamin B6	75 mg	2 mg
Zinc	30 mg	11 mg
Selenium	200 mcg	55 mcg
Lutein	11 mg	250 mcg
Lycopene	2 mg	300 mcg
Vitamin B1	75 mg	1.5 mg
Vitamin B2	50 mg	1.7 mg
Niacin (as niacinamide)	50 mg	20 mg
Pantothenic acid	100 mg	10 mg
Biotin	300 mcg	30 mcg
Boron	3 mg	150 mcg
Chromium	200 mcg	35 mcg
Molybdenum	100 mcg	45 mcg
Magnesium	100 mg	100 mg
Manganese	2 mg	2.3 mg
Iodine	150 mcg	150 mcg
Potassium	25 mg	80 mg
Vitamin A	5000 IU	3500 IU
Vitamin D	2000 IU	400 IU
Choline Bitartrate	20 mg	(none)
Inositol	50 mg	(none)
PABA	30 mg	(none)
Calcium	11 mg	200 mg

conventional "one-a-day" products, **Life Extension Two-Per-Day** contains up to **50 times more potency!**

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. Studies show that synthetic vitamin E is distributed throughout the body only about half as much as natural vitamin E.¹⁻⁵ The **200** IU of natural vitamin E contained in **Two-Per-Day** thus provides about **13 times** more vitamin E activity than does Centrum®.



Compared to Centrum®, Life Extension Two-Per-Day Tablets provide about:

- 5 times more Vitamin C
- 5 times more Vitamin D
- 7 times more Vitamin E
- 7 times more Lycopene
- 44 times more Lutein
- 10 times more Biotin
- 20 times more Boron
- 4 times more Selenium
- 37 times more Vitamin B6
- 50 times more Vitamin B1
- 50 times more Vitamin B12
- More than twice as much niacin, zinc, and many other nutrients

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Life Extension Two-Per-Day 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 Tablets** retails for \$18.95. If a member buys four bottles, the price is reduced to \$12.75 per bottle. (The retail price for 180 tablets of Centrum® is around \$14.)

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

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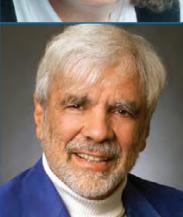
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LARGEST SELECTION OF VITAMIN D SUPPLEMENTS

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

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

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

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

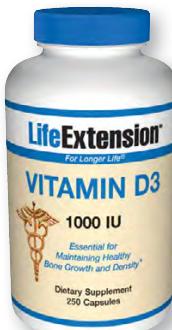
You can choose the right dose of **vitamin D3** for you from the large selection of vitamin D3 supplements below. Remember to factor in that you may be getting **1,000-3,000 IU** of vitamin D in multi-nutrient formulas you already take.

■ Vitamin D3 1,000 IU • 250 capsules

Retail: \$12.50

Four bottle Member Price: \$8.44

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

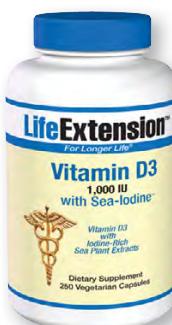


■ Vitamin D3 1,000 IU with 1,000 IU of Sea-Iodine • 250 vegetarian capsules

Retail: \$22

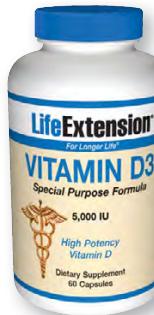
Four bottle Member Price: \$15

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



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

www.LifeExtension.com



■ Vitamin D3 5,000 IU • 60 capsules

Retail: \$11

Four bottle Member Price: \$7.43

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



■ Vitamin D3 5,000 IU with 1,000 IU of Sea-Iodine • 60 vegetarian capsules

Retail: \$14

Four bottle Member Price: \$9.38

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



■ Vitamin D3 7,000 IU • 60 capsules

Retail: \$14

Four bottle Member Price: \$9.45

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



■ Vitamin D3 Liquid Emulsion 2,000 IU • 1 ounce

Retail: \$28

Four bottle Member Price: \$18.75

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

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

Drug Company Pleads Guilty to Health Fraud



BY WILLIAM FALOON



Life Extension[®] has spent the last three decades exposing horrific *financial* and *scientific* **fraud** perpetrated by the **pharmaceutical industry** and the **FDA**.

We have revealed how pervasive pharmaceutical **deceit** infiltrates government, academia, and the media, causing consumers to pay *outrageous prices* for *dangerous drugs* that provide little or ***no benefit***.

In an unprecedented development, a pharmaceutical giant has **pled guilty to a felony with the intent to defraud**, and its parent has agreed to pay a record **\$2.3 billion** to reimburse Medicare, Medicaid, and other agencies for drugs that were marketed in violation of various federal laws.¹

For those who labor under the *misconception* that pharmaceutical companies serve benevolent purposes, the multiple **criminal counts** you are about to read will eradicate this fallacy.

AS WE SEE IT

Lethal Drug *Illegally Promoted at Higher than Allowed Doses*

Most of you are familiar with the **Vioxx®** scandal, where pharmaceutical giant **Merck** has spent billions of dollars defending and settling lawsuits showing that the deadly dangers of this drug were known long before it was withdrawn.

A lesser-known arthritis drug in this category called **Bextra®** was also withdrawn because of increased risks of **heart attacks** and **strokes**, as well as deaths, in patients prescribed it.²⁻⁴

In a startling admission, a subsidiary of pharmaceutical behemoth **Pfizer** has pled guilty to a **criminal charge** that it fraudulently sold **Bextra®** not to treat arthritis, but to be used in **higher doses** to relieve acute and surgical pain.⁵

Even at the usual dose, **Bextra®** inflicted *fatal* side effects. In a 2004 analysis presented at the American Heart Association, **Bextra®** was shown to more than **double** the risk of heart attack or stroke. The lead author of this study commented that "**This is a time bomb waiting to go off.**"⁶



The record financial payout by Pfizer is not because **Bextra®** injured or killed arthritis patients. It is to settle government claims that Pfizer *illegally* promoted the sale of **Bextra®** for uses and dosages that the FDA specifically declined to approve due to **safety** concerns. Of the total settlement, \$1.195 billion represents a fine for the fraudulent marketing of **Bextra®**—the **largest criminal fine ever imposed** in the United States for any matter.

Life Extension® Members Learned of These Dangers Years Earlier

Years before the public learned about the dangers of **Vioxx®** and **Bextra®**, the **Life Extension Foundation®** warned its members that these drugs would create lethal havoc in the body. The reason is that by selectively blocking the *cyclooxygenase-2* (COX-2) enzyme, an imbalance is created that results in increased amounts of *thromboxane A2* and *leukotriene B4* being produced.⁷⁻⁹

Thromboxane A2 promotes abnormal arterial *blood clots*, the leading cause of acute heart attack and stroke.¹⁰ **Leukotriene B4** inflicts massive *inflammatory* damage to the arterial wall and other tissues of the body.¹¹

COX-2 inhibiting drugs like **Vioxx®** and **Bextra®** can increase *thromboxane A2* and *leukotriene B4* unless healthy dietary changes are instituted. This means reducing or eliminating from one's diet arachidonic acid-rich foods (egg yolk, red meat, poultry, and dairy), high-glycemic index carbohydrates, and omega-6 fats. The adverse effects of COX-2 inhibiting drugs may also be mitigated by taking a low-dose aspirin tablet each day, along with fish oil and curcumin.¹²⁻¹⁴

Based on these deadly underlying mechanisms, **Life Extension** knew that **Vioxx®**, **Bextra®**, and other drugs in this category would kill thousands of unsuspecting patients. Against us were **pharmaceutical companies** who spent billions of dollars misleading consumers and doctors into believing these drugs were "safer" than aspirin.

We don't believe the government even realizes how many needless deaths may have occurred as a result of the *unauthorized and illegal* promotion of **Bextra®**. The government focused its criminal charges instead on paperwork violations and financial losses to Medicare-Medicaid, not the patients injured by the illegal sale of this lethal drug.

Cash Kickbacks Paid to Doctors to Prescribe Drugs

Part of the **\$2.3 billion** settlement involves allegations that Pfizer paid doctors kickbacks to induce them to prescribe the following drugs:

Drug	Indication
Aricept®	Alzheimer's
Celebrex®	Arthritis
Lipitor®	High Cholesterol and LDL
Norvasc®	Hypertension
Relpax®	Migraine
Viagra®	Impotence
Zithromax®	Antibiotic
Zoloft®	Depression
Zyrtec®	Allergy

The government's complaint describes how Pfizer compensated doctors to prescribe these drugs in some instances by providing **cash** payments or so-called "gifts" such as travel, entertainment, and

AS WE SEE IT

meals. Illegal remuneration was also allegedly paid to doctors in the form of speaker fees, mentorships, preceptorships, and journal clubs.

When one reviews the diverse list of drugs that Pfizer is claimed to have **paid** doctors to prescribe, it is no wonder they grew to become the *largest* pharmaceutical company in the world.

Physicians Paid to Illegally Prescribe Drugs

It's one thing to break the law by paying doctors to prescribe drugs that at least have some degree of documented *efficacy*, but Pfizer went further than this.

The government's complaint describes how Pfizer created new uses for its patented drugs and then engaged in all kinds of devious schemes to illegally promote these "new uses" to physicians. For instance, Pfizer claimed their drug **Lyrica®** was superior to lower-cost generic medications to treat neuropathic and surgical pain, and then illegally compensated doctors to prescribe Lyrica® for these indications.¹⁵

Geodon® is a drug approved to treat schizophrenia or acute bipolar mania, but the government outlined in its complaint that Pfizer was inappropriately and illegally promoting it for use in children and adults to treat autism, attention deficit hyperactivity disorder, mood disorders, and depression. The government contended that Pfizer illegally promoted Geodon® at dosages that were off-label and "offered and paid illegal remuneration to health care professionals to induce them to promote and prescribe Geodon in violation of the Federal Anti-Kickback Statute."¹⁶

Zyvox® is an antibiotic Pfizer makes to treat deadly antibiotic-



resistant MRSA staph infections. The settlement agreement outlined various alleged misconduct relating to the illegal marketing of this drug, including how Pfizer falsely advertised that Zyvox® was superior to generic **vancomycin** and then illegally paid doctors to prescribe it.¹⁷

Pfizer Gets By with a Slap on the Wrist

In the settlement agreement, Pfizer only has to agree to admit to the **Bextra®** criminal charge. In exchange for paying a total of **\$2.3 billion**, Pfizer is allowed to claim a denial of the government's other allegations.

To give you an idea what a drop in the bucket this payout is to Pfizer, when a one-time tax break was given to corporations that repatriated offshore profits, Pfizer brought back **\$37 billion** of cash stashed away from its foreign operations.¹⁸ Pfizer did this because the tax rate was only 5.25% that year. Considering how much more they made in their largest market (the United States), writing a **\$2.3 billion** check to settle these massive fraud claims is *pocket change* to a company the size of Pfizer.

This is not the first time Pfizer was caught committing these illegal acts. Prosecutors noted that this was Pfizer's **fourth** such settlement since 2002.¹ In fact, according to the US Attorney, while Pfizer was negotiating deals over past misconduct, they were

continuing to violate the same laws with other drugs.¹⁹

Contrast Pfizer's "slap-on-the-wrist" fine to what the FDA does to those who practice *alternative medicine*. Under far less egregious circumstances, the government seizes *everything* owned by alternative practitioners and often subjects them to harsh jail sentences.

Drug Companies Pay Ghostwriters

According to a study released by editors of the *Journal of the American Medical Association*, drug companies pay doctors with prestigious university affiliations to put their name on so-called "scientific papers" that are written by *ghostwriters*.²⁰

These pharmaceutical company-financed articles, carefully calibrated to sell expensive prescription drugs, slip by the peer-review process and make it into the top medical journals. Not only do these articles influence physician prescribing practices, but the media often picks up on them and runs favorable news articles about these deceptively promoted drugs.

As *Life Extension* reported last year, drug company **Wyeth** faces 8,400 lawsuits from women who claim **Premarin®** or **PremPro®** caused them to become ill. Court documents from these cases reveal that Wyeth paid *ghostwriters* to produce 26 "scientific" papers supporting the use of their dangerous female hormone drugs.²¹

AS WE SEE IT

The Wyeth-funded articles extolled purported benefits of these unnatural hormone drugs while downplaying their lethal risks. Nowhere in these articles was Wyeth's role in initiating and paying for them disclosed.

Court documents show how Wyeth contracted with private companies to outline articles, draft them, and then solicit top physicians to sign their names, even though many of the doctors contributed little or no writing to them. These tainted articles were published in medical journals between 1998 and 2005, and helped generate billions of dollars of sales for Wyeth.²¹

The latest corroboration of large-scale drug company-induced *ghostwriting* substantiates what *Life Extension* uncovered decades ago: drug companies *manipulate* scientific data to deceive doctors into prescribing dangerous drugs.

If you wonder how pharmaceutical companies have been able to **defraud** the American public for so many decades, look no further than the *incestuous* relationship they maintain with the **FDA**. By providing the pharmaceutical industry a virtual *monopoly* over drug sales in the United States, as the **FDA** does, consumers have only limited options when they contract a serious illness.

Those who offer alternatives to **FDA-approved drugs** often find themselves under criminal or civil investigation by any number of federal agencies, thus impeding or outright blocking their ability to compete against pharmaceutical behemoths.

Where to Find Unbiased Drug Information

Not all prescription drugs are fraudulently sold. In fact, some

medications confer longevity benefits. The problem is that pharmaceutical companies exert so much control over the FDA that consumers cannot rely on this agency to protect them against dangerous and ineffective drugs.

The **Life Extension Foundation** is not a patent holder of expensive prescription drugs, nor are we economically beholden to the pharmaceutical industry. Our track record of warning against *dangerous* drug side effects, while recommending *safer* and more *effective* drug uses, exceeds anything that the FDA has ever done to protect consumers.

As a Life Extension member, you obtain unbiased scientific data, free from the scandalous and criminal pharmaceutical company deception most Americans are vulnerable to.

For longer life,



William Faloon

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Does Your Pharmacy Care if You Live or Die?

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

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

Our Independent Thinking

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

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

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

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

Tailored Services

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

Simvastatin 40-mg (90 Tablets)

CVS Price \$154.99	Life Extension Rx Price \$21.23*	% Saved 86%
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Glyburide 5-mg (90 Tablets)

CVS Price \$33.59	Life Extension Rx Price \$13.06*	% Saved 61%
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* Prices as of January 20, 2010. Prices subject to change.

Saving Your Money & Your Health

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

Super Low Prices on Compounded Prescription Drugs

LifeExtensionRx™

The right prescription for savings

Call 1-877-877-9700
today to fill a new prescription or
to transfer an existing one.

To find out how you
may benefit by transferring
your prescriptions,
call 1-877-877-9700.

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.

How Much More FDA Abuse Can Americans Tolerate?

by William Faloon

Governments collapse when **ineptitude** and **corruption** reach such egregious magnitudes that the citizenry has no choice but to **revolt**.

I have exposed so many horrific **scandals** within the **FDA** that even I thought the agency can't get any worse. I thought wrong!

At the heart of the FDA's rationale for existence is its supposed ability to evaluate findings from **human clinical drug trials**. The FDA's ultimate decision to approve or reject a new drug is based on how the drug performs in human trials.

If you ever wonder why a drug works so well in clinical trials, but then inflicts lethal side effects (and only mediocre efficacy) after FDA approval, one part of the answer is that the clinical trials themselves are often **fraudulent**.



In a revelation widely reported by the news media, a crooked clinic helped conduct 170 drug studies for nearly every major pharmaceutical company and routinely **falsified** data and patient records. The clinic's criminal conduct rendered the findings from the human trials they conducted meaningless. The FDA relied on these **fraudulent** findings, however, to **approve** drugs used by tens of millions of Americans.

FDA Lets Criminals Oversee Clinical Trials

The shocker is that **after** federal agents raided this clinic and those who perpetrated these illegal acts pleaded **guilty** to fraud, the FDA did **not** ban them from participating in additional human clinical drug trials!

According to federal law, the FDA had five years from the criminal conviction to ban the perpetrators from conducting further drug research. In this case, the FDA did nothing for over four years, and then sent the revocation notice to the wrong address. The result is that those involved in these criminal acts are free to continue conducting human clinical trials.

When **Congress** learned of the FDA's gross incompetence, they conducted their usual hearings where FDA officials are subpoenaed to appear before a Congressional oversight committee to explain how such a blatant error could occur.

Congressional investigators found the FDA pays little attention to its responsibilities to ban researchers convicted of **fraud** and is totally disorganized about carrying out revocation procedures.

The **General Accounting Office** reviewed 18 instances of research fraud and found the FDA took between one and 11 years to ban these criminals. FDA negligence enabled those **convicted of fraud** to conduct human experimentation for years. Is it any wonder why so many FDA-approved drugs kill their users either from side effects or lack of efficacy?

New Book, *FDA: Failure, Deception, Abuse*

One of the more pleasant surprises in my life happened when I was sent the manuscript of a 500-page book that some **Life Extension** members meticulously put together. The book consists of FDA exposé articles I and others have written over the past 14 years.

Hunter Lewis and Gretchen Dubeau run an organization called the Alliance for Natural Health-USA (ANH-USA). (The name reflects a merger of the **American Association for Health Freedom** (AAHF) and the Alliance for Natural Health in the UK.) The merged organization will redouble its efforts to radically reform the FDA.

Hunter called me about a year ago and said my anti-FDA articles were too important to be published

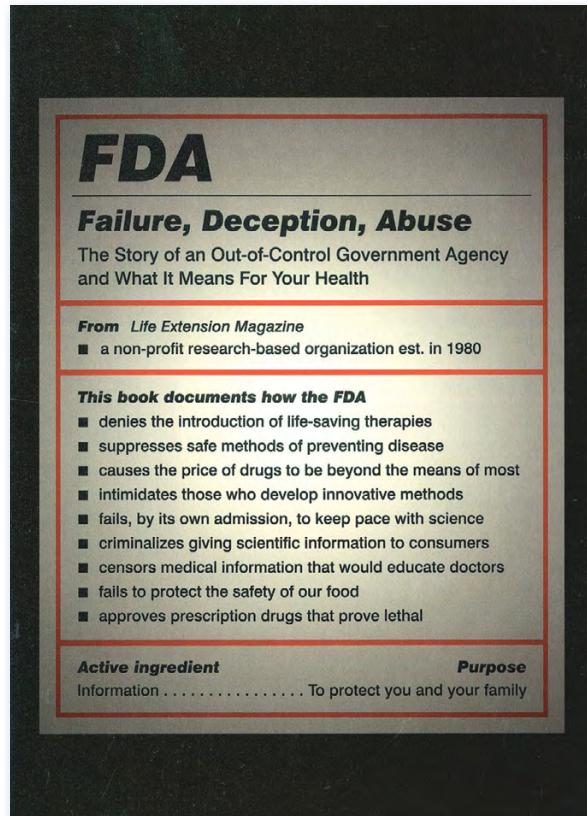
only in a monthly magazine. He said these exposés needed to be memorialized in a book that would enlighten Congress, the media, and the public about how the FDA is responsible for the needless deaths of tens of millions of Americans—while also being the primary culprit behind America's health care cost crisis.

The book Hunter and others compiled titled ***FDA: Failure, Deception, Abuse*** represents a compilation of FDA atrocities that have never appeared together in one publication. The objective is to disseminate this book, published by Praktikos Books (Praktikosbooks.com), far and wide in order to enlighten this country about the urgent need for radical FDA reform.

I encourage members to obtain a copy of ***FDA: Failure, Deception, Abuse*** for themselves and to loan it out to others. The publisher will also provide a PDF highlights version of the book on a special website (www.fdafailuredeceptionabuse.com) that may be downloaded and either emailed or mailed to everyone you know, including your Representative and two Senators.

Will This New Campaign Work?

For those not familiar with computer networking Web sites such as Facebook.com, Twitter, or other sites like this, a quiet revolution is occurring. People are communicating so rapidly and efficiently, that there is no longer the need for a **Paul Revere** to frantically ride on horseback announcing "the British are coming."



The explosive growth in the popularity of social networking sites means that the PDF highlights of the book ***FDA: Failure, Deception, Abuse*** and other news about it can be sent to an enormous number of people in a very short period of time.

Armed with the unassailable data provided in ***FDA: Failure, Deception, Abuse***, the groundwork has been laid for citizens to rise up against FDA oppressors and demand Congress enact immediate and radical FDA reform, including allowing Americans to access **any** therapy they believe may save their lives (as long as fraud is not involved).

The Urgent Need for Radical FDA Reform

If radical FDA reform is not enacted, most people reading this

article will suffer premature aging and death.

The book ***FDA: Failure, Deception, Abuse*** provides a plethora of irrefutable facts that should result in some members of Congress calling for the agency to be abolished all together.

I ask that all members purchase at least one copy of ***FDA: Failure, Deception, Abuse*** and then access the special website (fdafailuredeceptionabuse.com) to email or mail the highlights of this book to every person they know with a personal note. I cannot think of a more efficient way to initiate a **revolution** against FDA tyranny while unshackling legitimate scientists whose discoveries could save countless numbers of human lives.

FDA: Failure, Deception, Abuse at 50% Off Cover Price

FDA: Failure, Deception, Abuse will be distributed in bookstores and through a number of commercial outlets. For a limited time, **Life Extension** members can obtain this revolutionary, inspired book for **50% off** the cover price.

Until April 14, 2010, the price for each copy of the 500-page ***FDA: Failure, Deception, Abuse*** is **only \$10**.

If you can afford it, we urge you to buy multiple copies to send to your members of Congress. You may also want to give it to those you know who don't understand that the FDA is the leading cause of disability and death in the world.

To order ***FDA: Failure, Deception, Abuse*** for only \$10 a copy, call **1-800-544-4440** or log on to www.LifeExtension.com •



POWERFUL PROTECTION AGAINST LDL Oxidation and Proinflammatory Cytokines

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

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

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

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

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

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

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



Item #01304

To order **Theaflavin Standardized Extract Capsules**, call **1-800-544-4440** or visit www.lifeextension.com

Advanced Colon Care With **AGAVE** DIGESTIVE-IMMUNE SUPPORT

Balancing the ecosystem of the colon is crucial to whole body health. This balance depends on inhibiting **harmful bacteria** and promoting the growth of beneficial bacteria that support immune function. While *stress, diet and age* are important factors, a strong digestive system is *essential* — it accounts for 60% to 70% of our body's immunity.¹ Life Extension®'s **Agave Digestive-Immune Support** helps **beneficial bacteria** proliferate in the colon for healthy immune response.

A clinically *advanced* prebiotic blend, **Agave Digestive-Immune Support** nourishes beneficial bacteria, such as *bifidobacteria*, to *enhance* immune response and suppress growth of unwanted microorganisms. This supports the body's *natural* response to infection.

Among the several hundred species of bacteria, *bifidobacteria* are among the most essential to colon health. Prebiotics deliver the specific nutrients they need in an *undigested* form. This enables beneficial bacteria to flourish, providing a higher level of protection and support.

AGAVE DIGESTIVE-IMMUNE SUPPORT contains *three* complementary prebiotic ingredients:

AGAVE INULIN/FOS *Inulins* are the nutrients beneficial bacteria thrive on. The inulins in **Agave** are *complex*. They last longer in the digestive tract, allowing beneficial bacteria to distribute *further* into the colon.

FIBER/SUNFIBER® PARTIALLY HYDROLYZED GUAR GUM (PHGG) favorably modifies intestinal pH for more efficient absorption of essential nutrients, including magnesium and calcium.

SHORT-CHAIN FRUCTOOLIGOSACCHARIDES (FOS) are a preferred food source for *bifidobacteria*. FOS also increases stool bulk, supports normal bowel function, and promotes regularity.

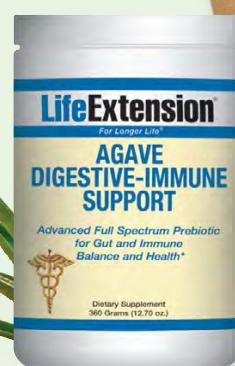
Those who want to obtain the benefits of this *digestion-enhancing* formula can order the new **Agave Digestive-Immune Support**. The suggested dose is 1 scoop per day mixed into 4–8 ounces of any beverage or soft food.

A jar containing **360 grams of powder** retails for \$30, but when a member buys four jars, the price is reduced to **\$20.25** per jar.

Reference:

1. *Clin Exp Immunol.* 2008 Sep;153 Suppl 1:3-6.

SunFiber® is a registered trademark of Taiyo International, Inc.

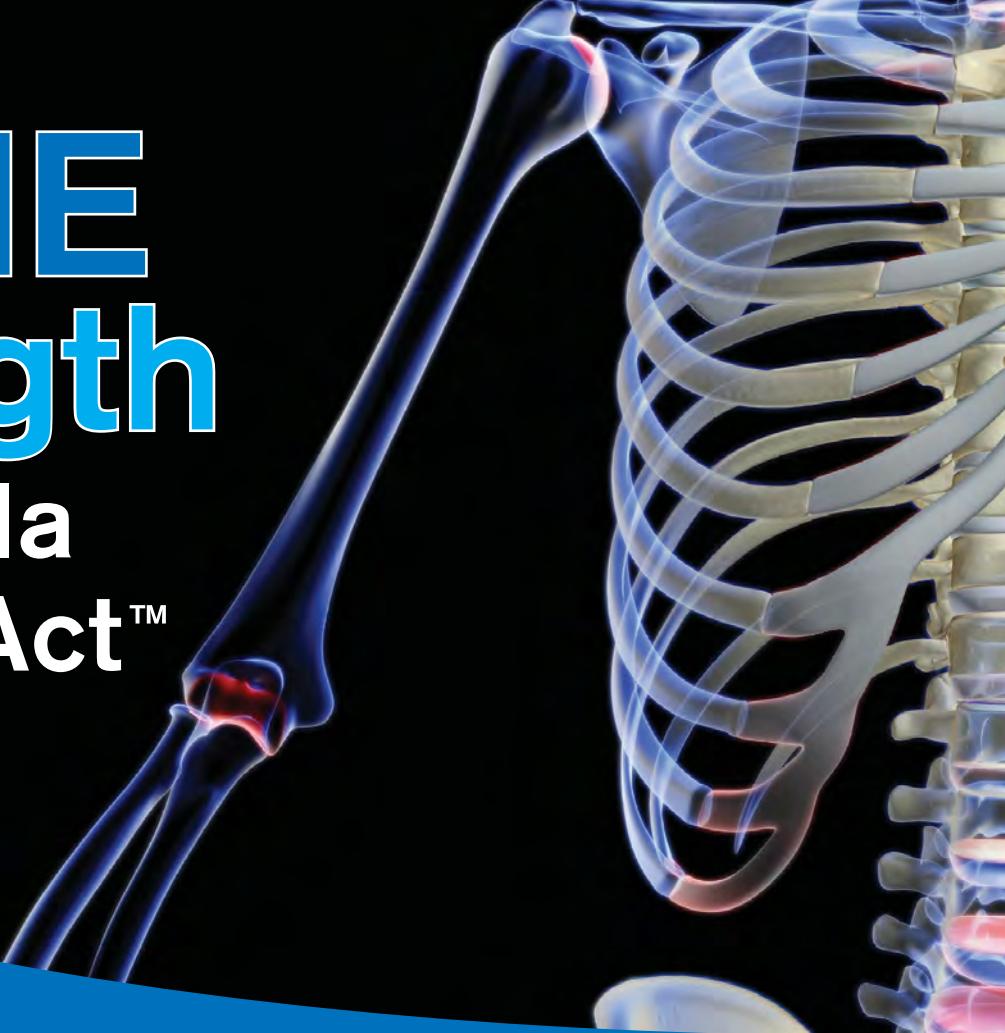


Item #01417

To order
Agave Digestive-Immune Support,
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or visit **www.LifeExtension.com**

BONE Strength

Formula With KoAct™



The use of diets high in **collagen** to improve bone health dates back to ancient cultures. Now, Life Extension® brings you an exciting patent-pending formulation of chelated **calcium and collagen** called **KoAct™** to help maintain **bone strength and mineral density.*** KoAct™ allows for greater flexibility ... so your bones can absorb energy, **reducing the risk of age-related injuries.** Additional plant extracts have also been added for their bone-protective minerals and polyphenols.

Four capsules of **Bone Strength Formula with KoAct™** provide:

Collagen (from 3000 mg KoAct™ Calcium Collagen Chelate)	2700 mg
Calcium (from 3000 mg KoAct™ Calcium Collagen Chelate)	300 mg
Vitamin D3 (as cholecalciferol)	1000 IU
Magnesium (as magnesium citrate)	100 mg
Silica [from standardized Bamboo (<i>Bambusa vulgaris</i>) extract (stem)]	5 mg
Dried Plum (<i>Prunus domestica</i>) extract (fruit) [standardized to 50% polyphenols (50 mg)]	100 mg
Boron (calcium fructoborate as patented FruiteX B® OsteoBoron®)	3 mg

To order **Bone Strength Formula with KoAct™**,
call **1-800-544-4440** or visit **www.lifeextension.com**

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



Item #01211

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

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



IN THE NEWS

Higher Vitamin D Levels Associated with Improved Lymphoma Survival

A presentation at the 2009 meeting of the American Society of Hematology revealed the finding of researchers from the Mayo Clinic of an association between higher levels of vitamin D and greater survival in individuals being treated for lymphoma.*

Serum 25-hydroxyvitamin D levels were measured in 374 patients with newly diagnosed diffuse large B-cell lymphoma. Half of the patients were found to have deficient levels of less than 25 nanograms per milliliter. This group had a 1.5 times greater adjusted risk of disease progression and twice the rate of dying over the course of the study compared to those with optimal levels.

"While these findings are very provocative, they are preliminary and need to be validated in other studies," lead investigator Matthew Drake, MD, PhD noted. "However, they raise the issue of whether vitamin D supplementation might aid in treatment for this malignancy, and thus should stimulate much more research."

—Dayna Dye

* From a presentation at the 2009 American Society of Hematology meeting.

Less Advanced and Lethal Prostate Cancers in Coffee Drinkers

A recent Frontiers in Cancer Prevention Research Conference was the site of a presentation of the finding that men with a high intake of coffee have a lower risk of advanced and lethal prostate cancer.*

Kathryn M. Wilson, PhD of Harvard School of Public Health and her colleagues evaluated data from nearly 50,000 participants in the Health Professionals' Follow-Up Study. Coffee intake was assessed for 1986 and every four years thereafter until 2006.

While coffee drinking appeared to have a small protective effect on the overall risk of prostate cancer, when advanced and fatal cancers were analyzed, the risk of each was 59% lower in men who consumed the most coffee.

"Very few lifestyle factors have been consistently associated with prostate cancer risk, especially with risk of aggressive disease, so it would be very exciting if this association is confirmed in other studies," Dr. Wilson remarked.

Editor's note: A reduction in the risk of prostate cancer has also been associated with other foods, such as tomato products containing lycopene, green tea, and especially cruciferous vegetables like broccoli and cauliflower.

—Dayna Dye

* Study from the Frontiers in Cancer Prevention Research Conference, Dec. 6-9, 2009.

IN THE NEWS



Curcumin and Bioperine Target Breast Cancer Stem Cells

An article published online in the journal *Breast Cancer Research and Treatment* reveals that curcumin and piperine from black pepper help inhibit the growth of stem cells that fuel breast cancer.*

Researchers at the University of Michigan compared the effects of varying concentrations of curcumin and piperine administered to cultured breast cells to a control substance. They found a reduction in markers for stem cells in cultures treated with the lowest concentration of curcumin, and complete inhibition at twice that concentration. Piperine also demonstrated an inhibitory property, although the effects were not as pronounced as those elicited by curcumin. The addition of piperine to curcumin resulted in a reduction in stem cells that was greater than either agent alone, while having no effect on normal cell development.

The report is the first to conclude that curcumin and bioperine could help prevent cancer by targeting stem cells.

Editor's note: Bioperine is sometimes added to curcumin supplements to increase the absorption of curcumin.

—Dayna Dye

* *Breast Cancer Res Treat.* 2009 Nov 7.

Milk Thistle Shows Protective Effect Against Chemo-induced Liver Inflammation

A study described in an article published online in the journal *Cancer* reveals that the herb milk thistle, which contains the liver protective compound *silibinin*, reduces inflammation of the liver in children receiving treatment for acute lymphoblastic leukemia (ALL).

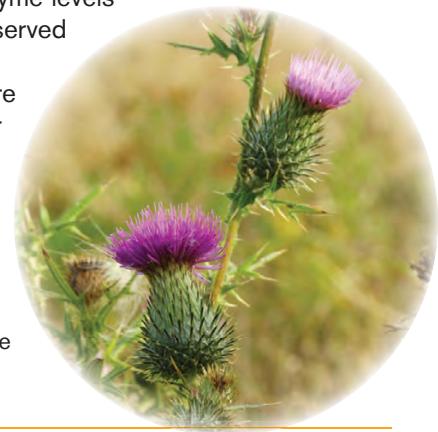
In a double-blind trial, Kara Kelly, MD, of the New York-Presbyterian Hospital/Columbia University Medical Center and her colleagues randomized 50 children with inflammation of the liver due to chemotherapy for ALL to receive a placebo or an extract containing one part silibinin to two parts phosphatidylcholine for 28 days. One month after treatment, the liver enzyme AST was significantly lower in children who received milk thistle and a trend toward lower ALT enzyme levels than those measured at baseline was observed compared to the placebo group.

"Our results are promising as there are no substitute medications for treating liver toxicity," Dr. Kelly stated.

Editor's note: Milk thistle has been available as over-the-counter supplements (silymarin and silibinin) for many years, and is also used to help protect the liver in other conditions.

—Dayna Dye

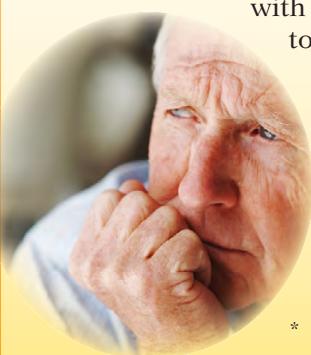
* *Cancer.* 2009 Dec 14.



Curcumin Shows Chemopreventive Potential for Prostate Cancer

In a recent study done by the Laboratoire de Biologie Moléculaire et Cellulaire du Cancer, Hôpital Kirchberg in Luxembourg, researchers tested the efficacy of curcumin as part of a chemoprevention regimen for prostate cancer.* Curcumin is the principal curcuminoid of the Indian spice turmeric. It is a natural compound that may interfere with prostate cancer proliferation and metastasis development.

The researchers found that it also regulates the inflammatory response through the inhibition of pro-inflammatory mediators and the NF-kappaB signaling pathway. These results are consistent with this compound's ability to induce pro-apoptotic proteins and to downregulate the anti-apoptotic counterparts. Curcumin is also reported to be a good inducer of prostate cancer cell death by apoptosis. The study concluded that curcumin appears to be a non-toxic alternative for prostate cancer prevention, treatment or co-treatment.



* *Genes Nutr.* 2009 Oct 6.

—Jon Finkel

EPA and DHA Needed for Optimal Nervous System Function

A report appearing in the journal *Behavioral Neuroscience* revealed that diets that fail to provide enough of the omega-3 fatty acids EPA and DHA may negatively affect the nervous system.

Researchers gave one of the following diets to pregnant mice and their offspring: omega-3 fatty acid deficient, low alpha-linolenic acid, high alpha-linolenic acid, or a diet enriched with EPA and DHA. Adult offspring of the mice in the four groups were tested for nervous system function by exposing them to a loud noise preceded by a softer warning tone. Animals normally flinch upon hearing a loud tone; however, flinching is reduced when the animals are first exposed to a warning tone, an adaptive process known as sensorimotor gating. While mice that were raised on EPA and DHA demonstrated normal sensorimotor gating, animals given the other diets were more startled by the loud noise. The finding suggests that a sensory overload state could result from omega-3 deficiency.

Editor's note: The ability of DHA and EPA to help maintain nerve cell membranes may be responsible for the protective effects observed in the current study.

—Dayna Dye

**Behav Neurosci.* 2009;123(6)

Green Tea Intake May Protect Against Coronary Atherosclerosis

The Department of Cardiology at the First Affiliated Hospital of Nanjing Medical University in China recently investigated the association between green tea consumption and arteriographically determined coronary atherosclerosis in a Chinese population.*

The study consisted of 520 patients (379 men and 141 women) who underwent coronary arteriography for the first time. Patients were divided into 2 groups (non-coronary artery disease [CAD] and CAD groups) according to the results of coronary arteriography. After adjusting the established and potential confounders, green tea consumption was associated with a trend toward a reduced risk of CAD in male patients compared with those who did not drink green tea. In female patients, no protective association was found between green tea consumption and CAD. The study suggests that green tea consumption can protect against the development of coronary atherosclerosis in Chinese male patients.

—Jon Finkel

* *Circ J.* 2009 Dec 17.



Long-term Exercise Positively Impacts Cellular Aging

In the journal *Circulation*, Ulrich Laufs, MD and his colleagues report an association between long-term intense exercise and a reduction in the shortening of telomeres that occurs with aging.*

The researchers assessed telomere length in blood samples from professional runners whose age averaged 20, middle-aged athletes who had engaged in endurance exercise since youth, and young and old groups of untrained athletes who did not engage in regular exercise. Age-dependent telomere loss was found to be lower in the middle aged athletes who had engaged in endurance exercise for several decades compared to the older, untrained men. "The most significant finding of this study is that physical exercise of the professional athletes leads to activation of the important enzyme telomerase and stabilizes the telomere," noted Dr. Laufs. "This is direct evidence of an anti-aging effect of physical exercise. Physical exercise could prevent the aging of the cardiovascular system, reflecting this molecular principle."

Editor's note: Several factors have been associated with reduced telomere shortening, including multivitamin supplementation and other lifestyle improvements.

—Dayna Dye

* *Circulation.* 2009 Dec 15;120(4).



IN THE NEWS



Zinc Plays Role in the Prevention of Osteoporosis

The Department of Medicine at Emory University School of Medicine recently studied zinc's role as an essential nutritional component in the development of humans and animals.* Researchers noticed several important factors relating zinc content in bones to the strength of bones. In particular, increased bone zinc content has been shown to decrease bone aging, skeletal unloading, and postmenopausal conditions, suggesting its role in bone health. Zinc has also demonstrated a stimulatory effect on osteoblastic bone formation and mineralization.

Researchers also noted that the oral administration of beta-alanyl-L-histidinato zinc (AHZ) or zinc acexamate has a restorative effect on bone loss under various pathophysiologic conditions including aging, aluminum bone toxicity, calcium and vitamin D deficiency, adjuvant arthritis, estrogen deficiency, diabetes, and fracture healing. The study concluded that zinc compounds may be designed as a new supplementation factor in the prevention and therapy of osteoporosis.

—Jon Finkel

* Mol Cell Biochem. 2009 Dec 25.

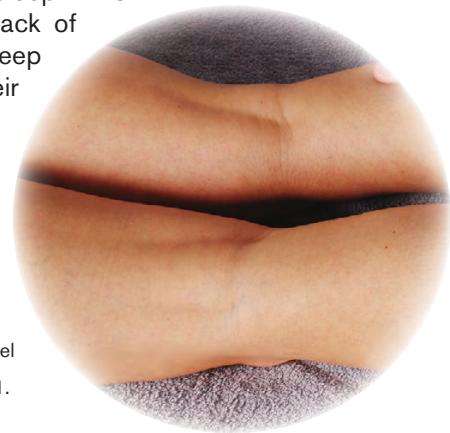
Magnesium Deficiency May Be Linked to Restless Leg Syndrome

In a study from the *Romanian Journal of Neurology and Psychiatry*, researchers conducted biochemical and neurological tests in 10 cases of restless leg syndrome. The investigators reported important disorders of sleep organization. They found agitated sleep with frequent periods of nocturnal awakenings, and a decrease of the duration and percentage of the deeper rapid eye movement (REM) sleep—also found in other forms of insomnia caused by magnesium deficiency.¹

According to the U.S. Dept. of Agriculture's Human Nutrition Research Center in North Dakota, "Magnesium plays a key role in the body's chemistry that regulates sleep. This may be why persons with long-term lack of sleep, or abnormal brain waves during deep sleep, often have low magnesium in their blood....Magnesium treatment increased deep sleep and improved brain waves during sleep in 12 elderly subjects. Magnesium treatment also decreased time to fall asleep and improved sleep quality of 11 alcoholic patients who often have a low magnesium status."²

—Jon Finkel

1. Rom J Neurol Psychiatry. 1993 Jan-Mar; 31(1):55-61.
2. www.ars.usda.gov.



Coenzyme Q10 and Creatine Combination Produces Additive Neuroprotective Effects in Models of Parkinson's and Huntington's Diseases

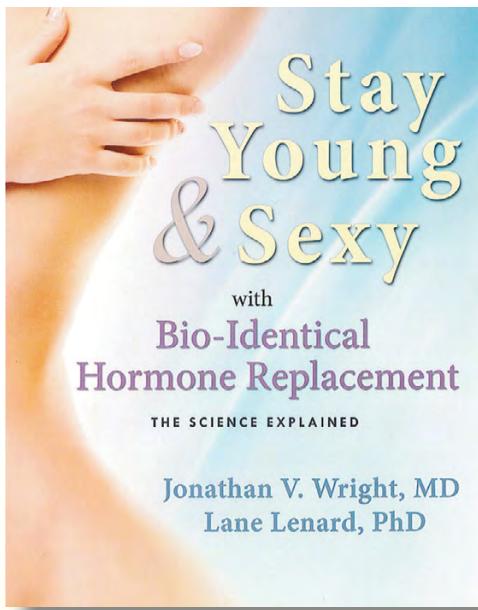
Researchers from the Department of Neurology and Neuroscience at the Weill Medical College of Cornell University have discovered that coenzyme Q10 (CoQ10) and creatine are promising agents for neuroprotection in neurodegenerative diseases via their effects on improving mitochondrial function and cellular bioenergetics and their properties as antioxidants.*

The researchers examined whether a combination of CoQ10 with creatine can exert additive neuroprotective effects in a mouse model of Parkinson's disease, a rat model of Huntington's disease (HD), and a transgenic mouse model of HD. The combination of the two agents produced additive neuroprotective effects against dopamine depletion in the striatum and loss of tyrosine hydroxylase neurons in the substantia nigra following chronic administration of a neurotoxic agent. These findings suggest that combination therapy using CoQ10 and creatine may be useful in the treatment of neurodegenerative diseases such as Parkinson's disease and HD.

—Jon Finkel

* J Neurochem. 2009 Jun;109(5):1427-39.

BOOK REVIEWS



A decade after Dr. Jonathan Wright introduced the concept of bio-identical hormone replacement therapy (BHRT) with the book *Natural Hormone Replacement for Women Over 45*, in which he explored the benefits of true hormone replacement using bio-identical human hormones, Dr. Wright, along with Dr. Lane Lenard brings to print his newest offering: *Stay Young and Sexy with Bio-Identical Hormone Replacement: The Science Explained*.

In this follow-up book, Wright and Lane rely on their up-to-date clinical experience in order to highlight little-known scientific studies that form the foundation of support for the safety and benefits of BHRT. The book gets going debunking conventional bio-identical hormone thoughts and theories with the eye-catching title of its opening chapter: *Don't Let Your Doctor Give You Horse Urine!*

This chapter refers to the use of conjugated equine estrogens (CEEs) in standard "estrogen therapy." The use of this phrase rather than the more unpleasant one, horse urine, is not by accident, as the book states: "By carefully

Stay Young & Sexy with Bio-Identical Hormone Replacement: The Science Explained

By Jonathan V. Wright, MD and Lane Lenard, PhD

manipulating the language, the drug companies have convinced the vast majority of doctors, medical researchers, government regulators, media, and women themselves of an outright falsehood: that *CEEs are 'estrogen'* and that *'estrogen' is CEEs.*" This redefining of terms has been a cornerstone of insidious patent medicine marketing for nearly a hundred years, and *Stay Young* blows the whistle on how careful wording has dumped billions of dollars into Big Pharma's pockets.

Other chapters simply titled "Hormones and the Menstrual Cycle" and "Of Hormones & Drugs and Urine & Yams" act almost as an encyclopedia of everything women need to know about their bodies and hormones, while chapters later in the book answer questions about health and youth maintenance.

The final chapter of the book deals with the politics of bio-identical hormones and why the government is trying to take them away. In this startling climax, readers will get a feel for the real dangers behind government influence when it comes to medicine and what people can do to stay informed.

Suzanne Somers, who wrote the foreword for the book, perhaps says it best: "This is the real science not encumbered by pharmaceutical agendas. These doctors have gone out on a limb to bring the truth so that we can all feel better and live the joyous lives we were meant to enjoy."

—Jon Finkel

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Cover price: \$19.95
Member price: \$14.96
To order, call 1-800-544-4440



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

A Comprehensive Essential Fatty Acid Formula

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

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

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

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

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

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

New Higher Potency Standardized Olive Fruit

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

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

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

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

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

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omega-3 EPA/DHA

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

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

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

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

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

Upgraded Formula!

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

EPA Pure+™ Extract 1400 mg (eicosapentaenoic acid)

DHA Pure+™ Extract 1000 mg (docosahexaenoic acid)

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

Sesame seed lignan extract 20 mg



Item #01482

Item #01484



Vital Greens Plant Foods In a Convenient Powder Blend

We try to eat healthfully, but getting enough **plant foods** each day can be a challenge for many people.

The new **Vital Greens Mix** is a blend of *organic* whole plant foods that provide diverse benefits ranging from protecting DNA integrity and maintaining immune function to suppressing vascular risk factors and restoring healthy intestinal flora.

Some of the ingredients in the new **Vital Greens Mix** superfood include:

- **Chia**, a rich source of protein, fiber, vitamins, minerals, and alpha-linolenic acid (an omega-3 precursor). Recent research at the University of Toronto has shown that regular **chia** intake may help maintain healthy **blood pressure** and **C-reactive protein** levels, both of which are well-known markers of cardiovascular disease.¹
- **Green Grasses and Sprouts** to provide a full array of **chlorophyll-rich**, nutrient-dense natural “green” foods that help **detoxify** and maintain **youthful DNA integrity**. In addition, clinical trials with *chlorella* supplements demonstrate that daily use of this green food may support **healthy immunity** and **wound healing**.^{2,3}
- **Probiotics** to sustain **healthy bacterial balance** in the gut, which may support overall *immune* and *digestive health*.
- A **mushroom blend** combining *maitake*, *shiitake* and *cordyceps* extracts to support **immune health** and provide adaptogenic benefits for balance and resistance.

Each serving provides:

Chia Seed (organic)	3000 mg
Chlorella (organic)	1000 mg
Spirulina (organic)	1000 mg
Acerola (organic)	750 mg
Wheat Grass (organic)	430 mg
Maitake Mushroom Extract (organic)	400 mg
Wheat Sprout (organic)	300 mg
Barley Malt (organic)	300 mg
Probiotic Blend (<i>Lactobacillus acidophilus</i> , <i>Lactobacillus casei</i> , <i>Lactobacillus plantarum</i> , <i>Lactobacillus rhamnosus</i> , <i>Bifidobacterium breve</i> , <i>Bifidobacterium longum</i>)	300 mg
Shiitake Mushroom (organic)	300 mg
Cordyceps Mushroom Extract (organic)	300 mg
Dulse (organic)	250 mg
Beet Juice (organic)	250 mg
Barley Grass (organic)	200 mg
Brown Rice Bran (organic)	200 mg
Cilantro (organic)	200 mg
Suma (organic)	150 mg
Flower Pollen Extract (organic)	120 mg

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

Each scoop of **Life Extension's Vital Greens Mix** provides a daily dose of nutrient-dense foods and herbal extracts. The retail price of a 30-serving jar of this organic superfood is \$48. When a member buys four jars, the price is reduced to only **\$33 per jar**.

To order the new **Vital Greens Mix**,
call **1-800-544-4440** or visit
www.LifeExtension.com

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PROTECT EYE HEALTH AND FIGHT TIRED EYES

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

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

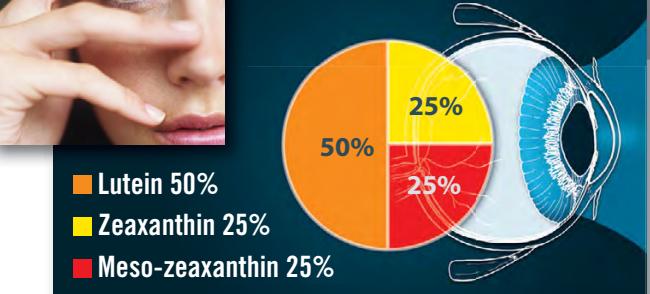
Super Zeaxanthin with Lutein & Meso-zeaxanthin Plus Astaxanthin gives you therapeutic doses of **all three carotenoids** to help protect your precious eyesight *plus* a special ingredient that's scientifically proven to help fight tired eyes.

Fight Tired Eyes With Astaxanthin

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



Item #01286



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

OptiLut® and Lutein Plus® with MZ® 38 mg
Marigold (*Tagetes erecta*) Extract (flower)
[free lutein equivalent 10 mg]

Zeaxanthin & Meso-zeaxanthin blend 3.75 mg
(micronized zeaxanthin, OptiLut® Marigold
and Lutein Plus® with MZ® Marigold Extract)

Natural Astaxanthin 6 mg
(from *Haematococcus pluvialis* algae extract)

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

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Lutein Plus® and MZ® are registered trademarks of Quantum Nutraceuticals. Licensed under U.S. Patents 5,523,494; 6,218,436; 6,329,432; and 6,504,067.



LOWER CHOLESTEROL SAFELY

BY ROBERT HAAS, MS

Nutritional Interventions for Healthy Lipids

ARE STATIN DRUGS RIGHT FOR YOU?

At **Life Extension**[®], we have long maintained that one's decision to take a particular drug should be based on individual **blood test** findings.

For blood lipids, we recommend members seek to achieve the following optimal ranges:

Total cholesterol	160-180 mg/dL
LDL	50-99 mg/dL
HDL	50-60 mg/dL (and higher)
Triglycerides	Under 80 mg/dL

Statin drugs lower **LDL** and total **cholesterol**, but have only a modest effect on boosting artery-cleansing **HDL**. Statin drugs do not lower **triglycerides**.

Physicians often rely solely on **high-dose** statin drug therapy to achieve desired blood lipid readings. One problem with this approach is that **side effects** elevate markedly as the **dose** of the statin drug is increased.

While you should take all necessary steps to protect heart health—which may include cholesterol-lowering medications—high-dose statins are often unnecessary. They should not be considered the only approach, given their considerable risks at high doses. The side effects of sustained statin use are well documented—muscle wasting, cognitive impairment, blurred vision, and nerve damage, among others.

The encouraging news is that safe, low-cost, broad-spectrum interventions exist *right now*, especially for individuals with elevated cholesterol, LDL, and triglyceride levels (and low HDL) who do not have other risk factors for vascular disease.

In this article, we explore a novel set of natural lipid-lowering compounds shown to support healthy cholesterol levels. **Monacolin-K**, a compound found in standardized red yeast rice extract, is a naturally occurring statin. It may surprise you to learn that in clinical studies, red yeast rice along with healthy lifestyle practices lowers cholesterol *as effectively as the prescription drug simvastatin*.¹

A substantial body of supportive research further indicates that **monacolin-K** also reduces **triglycerides** and boosts **HDL**, thus offering a safer and broader spectrum alternative to taking *synthetic* prescription statins.²⁻⁸

You will also discover the clinically demonstrated heart-protective benefits of other natural compounds that can bring your blood lipids into healthy balance, lower C-reactive protein (CRP) in the blood, quell chronic system-wide inflammation, and support healthy endothelial function.

Together they provide a potent, complementary alternative to prescription statin drugs. > >

Why So Many Doctors Advocate Statin Use

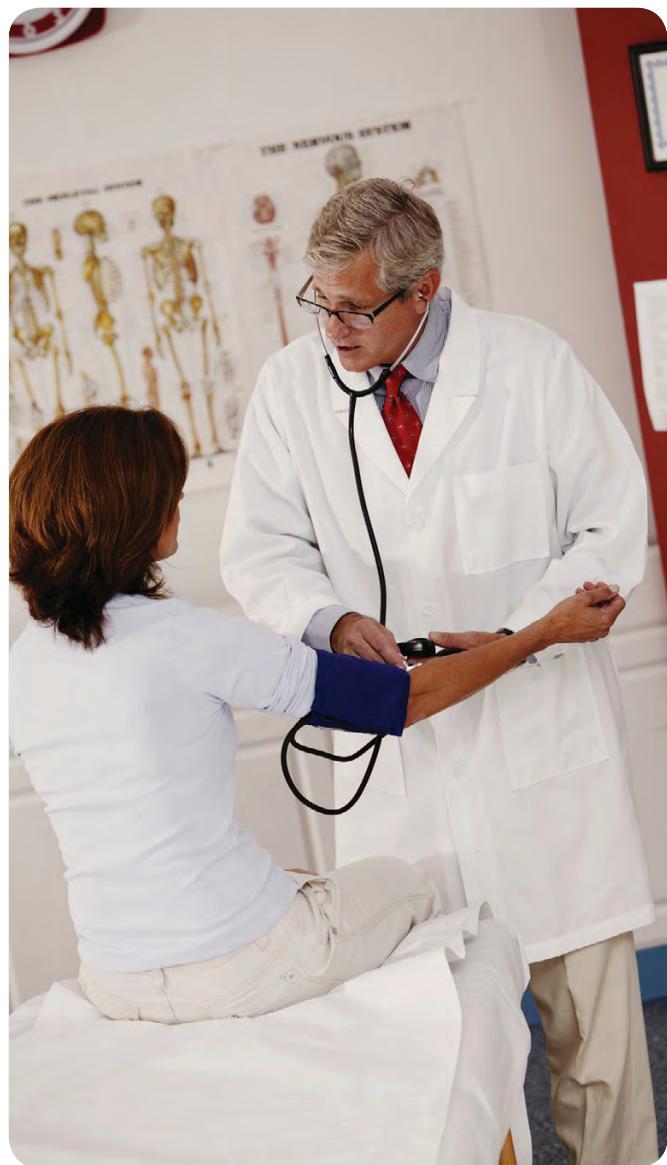
The simple answer is: many of them have been misled by Big Pharma. It's no exaggeration to say that statins have become the new aspirin in mainstream medicine's war on cardiovascular disease. They're considered wonder drugs by many in the medical community. As one leading cardiologist observed, "You can't go to a cardiology conference and ask who's on statins without everyone's hand going up."⁹

This almost casual attitude toward statin drug use largely stems from *industry influence*. Not content with letting doctors decide whether or not to prescribe statins on the merits of questionably favorable research data, some drug companies have apparently taken to bribing physicians to push statins on their patients. A 2009 investigative report disclosed that Pfizer and AstraZeneca, pharmaceutical giants that make the two best-selling statins—Lipitor® and Crestor®, respectively—offered Canadian doctors \$100 for every new patient they put on the cholesterol-lowering drugs.¹⁰ This outrageous marketing ploy is nothing new. In 2003, when AstraZeneca was poised to launch Crestor®, which was already known to have twice the adverse side effects of other statins, another unethical deceit was discovered. Dr. Bryan Brewer, a highly influential cholesterol researcher, raved about the drug, telling attendants at a seminar at an American Health Association convention that the drug was safe and effective. His comments were conveniently published in a "special supplement" of the *American Journal of Cardiology*, timed perfectly with the release of Crestor® to the US market.¹¹

An investigation later revealed that Dr. Brewer had *financial ties to AstraZeneca as a paid speaker*. It also revealed that ***AstraZeneca directly financed Dr. Brewer's American Health Association seminar and Circulation's special supplement.*** Dr. Brewer's monetary ties to the drug maker were *not disclosed* in his article.

Red Yeast Rice: A Better Alternative to Statins

Red yeast rice (RYR), a staple of Chinese medicine and a traditional Asian seasoning, is made by fermenting polished rice with various strains of the yeast *monascus purpureus*. It contains a naturally occurring statin called ***monacolin-K***.



High-dose statins are often unnecessary, and may not be the right choice for millions of people, given their side effect profile.

Monacolin-K effectively lowers cholesterol by acting as an HMG-CoA reductase inhibitor—the same mode of action as synthetic statin drugs. Bioactive compounds found in RYR complement monacolin-K's lipid-lowering effects, including ***unsaturated fats***.¹² These act both as cholesterol-lowering and anti-inflammatory agents.¹³

Mainstream medicine has been slow to embrace red yeast rice (RYR) as an alternative treatment therapy because the FDA does not regulate the supplement—and because many doctors remain unaware of its lipid-lowering ability and safety profile. This constitutes a great disservice to the millions of Americans now taking synthetic statin drugs. There is a wealth of compelling evidence indicating RYR's power to lower low-density lipoprotein (LDL) and triglyceride levels and raise high-density lipoprotein (HDL)—*without* unwanted and sometimes dangerous side effects.

In one of the largest studies of its kind, a meta-analysis of **93** randomized controlled trials involving almost **10,000** Chinese patients found that RYR could significantly lower levels of total cholesterol, LDL, and triglycerides, and raise levels of HDL compared with placebo.¹⁴

In a study specifically designed to determine if RYR could lower lipid levels without causing **myalgias** (muscle pain), researchers conducted a randomized, double-blind, placebo-controlled trial in patients with high cholesterol.¹⁵ Study participants were randomly assigned to take either **1,800 mg** of red yeast rice or placebo twice daily for 24 weeks. All participants were also enrolled in a 12-week therapeutic lifestyle change program during the study.

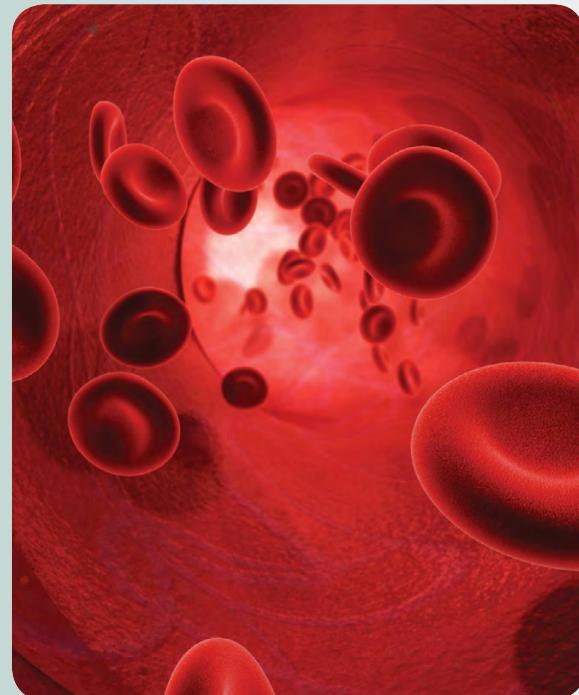
LDL levels decreased more in the RYR treatment group (average decrease of **35 mg/dL**) than in participants receiving the placebo (average placebo decrease was **15 mg/dL**). The RYR treatment achieved these results without increasing **muscle pain** or **CPK (creatinine phosphokinase)**—an enzyme in the blood that indicates muscle damage.

RYR has been shown in some studies to perform as well or better than some widely used synthetic statins. In one randomized, open-label clinical trial, investigators looked at 74 individuals with high cholesterol, dividing them between a **simvastatin** treatment group (**40 mg/day**) and an alternative treatment (AT) group.¹

The alternative treatment included lifestyle changes and ingestion of RYR and fish oil supplements for 12 weeks; the statin group received their medication and traditional counseling. Both groups achieved a statistically significant reduction in LDL levels (AT group -42.4% and the simvastatin group -39.6%). **But the AT group also achieved significant reductions in triglycerides (-29% in the AT group vs. -9.3% in the statin group) and weight loss (-5.5% vs. -0.4% of body weight in the statin group).** The data showed that lifestyle changes (i.e., diet, exercise, relaxation techniques) combined with ingestion of RYR and fish oil **reduced LDL in proportions similar to standard therapy with**

Red Yeast Rice

- Cholesterol-lowering statin drugs are one of the most widely prescribed classes of drugs.
- While protecting heart health is an important lifelong habit, the long-term effects of high-dose statin drugs carry considerable risks and should not be taken without thoughtful consideration.
- Safe, low-cost interventions are available now for those seeking to safeguard heart health.
- Red yeast rice contains monacolin-K, which works by the same mechanism as statin drugs to lower cholesterol.
- Red yeast rice has been shown to lower LDL, total cholesterol, and triglycerides while raising HDL. Red yeast rice has even benefitted individuals who could not tolerate the side effects of statin drugs.
- Since red yeast rice works similarly to statin drugs, practitioners recommend consuming extra CoQ10 while using it.
- Other therapies that support healthy cholesterol levels include beta-sitosterol, pantethine, policosanol, and niacin.





RISKS OF STATIN DRUGS

Using prescription statins is not without **serious health risks** and no one knows the long-term effects of living on them for life, which is how they must be taken. **People who use them and then quit a year later face elevated risk levels of stroke and heart attack.**^{34,35} Many people who take statins have to stop because of muscle pain, the most commonly reported side effect.^{36,37} A serious and potentially fatal type of **rhabdomyolysis** (muscle breakdown) has also been reported in statin users.³⁸⁻⁴¹

Numerous published studies have documented other hazards of taking statin drugs that afflict an untold number of users, including **muscle damage**,⁴² **cognitive impairment**,⁴³ **vision problems**,⁴⁴ **peripheral neuropathy**,⁴⁵⁻⁴⁷ and **tendonopathy**.⁴⁸

Published surveys reveal that **doctors tend to deny or to minimize statin risks to their patients**. These denials occur even when patients present with symptoms that are well-documented adverse reactions to statin drugs, such as muscle pain and detrimental changes in memory, concentration, and mood.⁴⁹

simvastatin. Investigators concluded that, “*This multifactorial, alternative approach to lipid lowering has promise for a subset of patients unwilling or unable to take statins.*”

Individuals already suffering from coronary heart disease (CHD) may also benefit from RYR as it has been shown to *blunt* the increase in **triglycerides** following a meal in patients with clinically documented coronary heart disease (CHD).¹⁶ After a high-fat meal, RYR significantly reduced fasting serum lipids while *increasing* fasting HDL. Post-meal triglyceride levels fell by **43%** after 6 hours in the treatment group—but not in the control group.

Pantethine: A Lipid-Lowering Vitamin

Pantethine is the active *form* of vitamin B5 (or pantothenic acid), the molecule used to make coenzyme A (CoA). CoA is involved in the transport, synthesis, and oxidation of fatty acids to and from the cells, and into the mitochondria. As a member of the **B-complex** family of vitamins, pantothenic acid

is essential to numerous bodily functions, including synthesis of neurotransmitters, hormones, and hemoglobin. Studies have shown that **pantethine can reduce serum triglycerides and cholesterol levels while increasing HDL levels**. This is true across a broad range of at-risk populations.

Cardiovascular diseases are the main cause of death in women, especially post-menopause. In a 16-week study of 24 menopausal women with high cholesterol (total cholesterol greater than or equal to **240 mg/dL**), pantethine yielded significant reductions of total cholesterol, LDL, and LDL/HDL ratio.¹⁷

Another study of pantethine in 7 children and 65 adults with high cholesterol and/or high triglycerides showed a significant reduction in total cholesterol, LDL, and triglycerides—as well as a substantial increase in HDL.¹⁸

In another illustrative clinical trial, researchers examined the effect of oral treatment with pantethine on 20 patients with elevated cholesterol and triglycerides.¹⁹ They found significant decreases of total cholesterol, LDL, and triglycerides, with increased levels of HDL.

Beta-Sitosterol: An Anti-Inflammatory and Anti-Cholesterol Plant Extract

Beta-sitosterol is a primary plant sterol. This class of compounds is molecularly similar to cholesterol and may *inhibit* cholesterol's absorption in the lower intestine and reduce levels of cholesterol in the blood. Phytosterols have also been shown to act in *synergy* with red yeast rice by achieving a therapeutic effect at a lower dose.

In effect, beta-sitosterol acts as a potent dietary cholesterol blocker. A significant body of clinical evidence has demonstrated its cholesterol-lowering effects. In a 2005 study, researchers gave 29 individuals with high cholesterol (40-80 years old, average age = 55; 14 with type 2 diabetes) an edible beta-sitosterol spread.²⁰ Both diabetic and non-diabetic patients experienced a greater reduction in LDL—**27%** and **15%** respectively—than controls.

A meta-analysis of 14 randomized controlled trials investigated the effects of plant sterols added to margarine on cholesterol levels.²¹ The sterol-fortified margarine caused a reduction in the mean concentration of LDL, an effect that tended to increase with age.



The results of two older beta-sitosterol studies further indicate it can *decrease systemic inflammation*. In one meta-analysis, the lead investigator noted that beta-sitosterol appears to support proliferation of peripheral blood lymphocytes and enhance the cytotoxic effect of natural killer cells.²² Another study that measured inflammation and immune suppression in marathon runners found that beta-sitosterol could help *prevent immune system suppression* and could reduce bodily inflammation.²³ Together, these anti-inflammatory properties led researchers to suggest that beta-sitosterol might be of clinical use in treating a number of chronic inflammatory conditions that could lead to cancers of the breast and colon.

Policosanol

Policosanol is a naturally occurring component of beeswax and whole sugar cane. More than **80 studies** performed mostly by a single research institute suggest that policosanol obtained from Cuban sugar cane at doses of **5-40 mg/dL** exerts *cholesterol-lowering effects equivalent to that of statin drugs*.^{24,25} (It should be noted that other research groups using policosanol from alternative sources have failed to reproduce the efficacy of these alcohols observed in earlier studies).²⁶

Numerous animal models studies have been conducted using policosanol. One study found that pre-treatment with policosanol and omega-3 fatty acids prevented arterial wall thickening and endothelial damage in animals whose arteries had been damaged artificially.²⁷

Some research suggests that policosanol is effective in lowering cholesterol in patients with progressive atherosclerosis and diabetes. One study tested policosanol in patients suffering ischemic stroke who were also treated with aspirin and vitamins. They achieved substantially positive results, with improvements in neurological outcomes and recurrent events.²⁸

Niacin

Niacin's ability to lower LDL, raise HDL, and lower triglyceride levels has been conclusively established by a wealth of clinical research.²⁹ It is one of the best-known and most widely used vitamins for lowering blood cholesterol levels. It has also been shown in multiple studies to provide better heart health protection than some statins. A widely publicized study appearing last November in the *New England Journal of Medicine* found that niacin was more effective at shrinking artery plaque than a billion-dollar

blockbuster called ezetimibe, the active ingredient in the cholesterol drugs Zetia® and Vytorin®.³⁰

Recent studies further indicate that niacin reduces oxidative stress and inhibits **vascular inflammatory genes**, including key **cytokines** involved in atherosclerosis.^{29,31,32} Until recently, niacin's general use and widespread patient tolerability have been *impeded* by the need to take it 4 times a day and by the high inci-

RED YEAST RICE PRECAUTIONS

Let your doctor know if you decide to take red yeast rice extract. Use it only under the guidance and supervision of your doctor or a healthcare practitioner. Pregnant or breast-feeding women should check with a health care provider before using products that contain red yeast rice extract.

Due to the relative lack of regulation of supplement manufacture, the stated content of red yeast rice products is unpredictable unless you use a product with certified concentrations of standardized monacolin-K content.

We strongly recommend using only standardized red yeast rice extract from reputable manufacturers who routinely test their products for purity.

As with prescription statins, people who ingest high doses of red yeast rice extract can experience muscle pain.⁵⁰⁻⁵²

As is also the case with statins, use of red yeast rice products may also deplete tissue levels of CoQ10.⁵³ Life Extension® recommends taking additional CoQ10 for those people who take statins and red yeast rice-containing products.



dence of skin flushing, gastric problems, and other adverse events.

A form of "no-flush" niacin has emerged, called **inositol hexaniacinate (IHN)**.³³ It consists of six molecules of nicotinic acid (niacin) and one molecule of inositol. It is metabolized in the body into its component parts, niacin and inositol, and does not reach maximum blood levels for approximately 10 hours after ingestion. This *form* of the vitamin has not been linked with the skin "flushing" or other typical niacin reactions, even when ingested in amounts typically associated with skin flushing, nausea, vomiting, and agitation. Regrettably, it also does not work as well as niacin in reducing LDL and triglycerides and boosting HDL.

Summary

Statin drugs are heavily used and over-prescribed, owing to industry influence and misinformation. High-dose statins are often unnecessary, and may not be the right choice for millions of people, given their side effect profile. Studies indicate that any reduced cardiovascular risk from taking statins may be offset by other serious side effects, from sexual, visual, hepatic, renal, and cognitive dysfunction to disability and death. Aging individuals who want to lower their blood lipid levels and C-reactive protein (CRP) number may be able to achieve similar benefits with standardized red yeast rice extract, beta-sitosterol, pantethine, policosanol, and niacin. These synergistic ingredients have been shown to reduce blood lipid levels while promoting healthy endothelial function and reducing CRP and systemic inflammation. They offer a safer alternative to taking synthetic prescription statins. ●

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

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CoQ10 may boost heart health of diabetics on statins

Coenzyme Q10 supplements may increase the vascular health of diabetics receiving statins, according to a new study from Australia.

Following 12 weeks of supplementation with CoQ10 (200 mg per day), an improvement in the blood flow was observed, according to findings published in the journal *Diabetes Care*.⁵⁴

It is well known that statins deplete the body's natural stores of CoQ10, and this has boosted use of CoQ10, particularly in the US, where the popularity of statins has increased.⁵⁵

The new findings indicate that, in addition to redressing the balance of CoQ10, supplementation may also improve endothelial dysfunction in statin-treated type 2 diabetic patients.

"The patients in our study had endothelial dysfunction despite satisfactory control of blood pressure, glycaemia and lipids, which may represent the proportion of statin-treated patients at increased residual risk of cardiovascular disease," wrote the researchers, led by Professor Gerald Watts from the University of Western Australia.

"Our absolute improvement in [blood flow in the arm] of 1% with CoQ10 supplementation may potentially translate to a 10-25% reduction in residual cardiovascular risk in these patients."

According to the International Diabetes Federation, there are over 245 million people with diabetes worldwide. If current trends continue, this number will rise to a staggering 380 million by 2030. Current costs of diabetic complications are estimated to account for 5 to 10% of total global healthcare spending.⁵⁶

Study details

In order to test their hypothesis that oral CoQ10 supplementation would improve the vascular health in statin-treated diabetics, Professor Watts and his co-workers recruited 23 statin-treated type 2 diabetic patients with endothelial dysfunction (and LDL-cholesterol levels less than 97.5 mg/dL). The volunteers were randomly assigned to receive either CoQ10 or placebo for 12 weeks.

The randomised, double-blind, crossover study analysed by brachial artery flow-mediated dilatation (FMD), a measure of endothelial dysfunction since a low value is indicative of a blood vessel's inability to relax, and nitrate-mediated dilation (NMD), which relates to nitric oxide, a potent endothelium-derived relaxing factor.

The researchers report a 2.7-fold increase in blood levels of CoQ10 following supplementation, and an increase in FMD of 1%. However, no changes in NMD were recorded, nor were any changes in levels of oxidative stress observed, assessed by measuring levels of compounds called F2-isoprostanes in the blood and urine.

"Impaired FMD is a consistent predictor of adverse cardiovascular events," wrote the researchers. "Several interventions that improve FMD also improve cardiovascular outcomes."

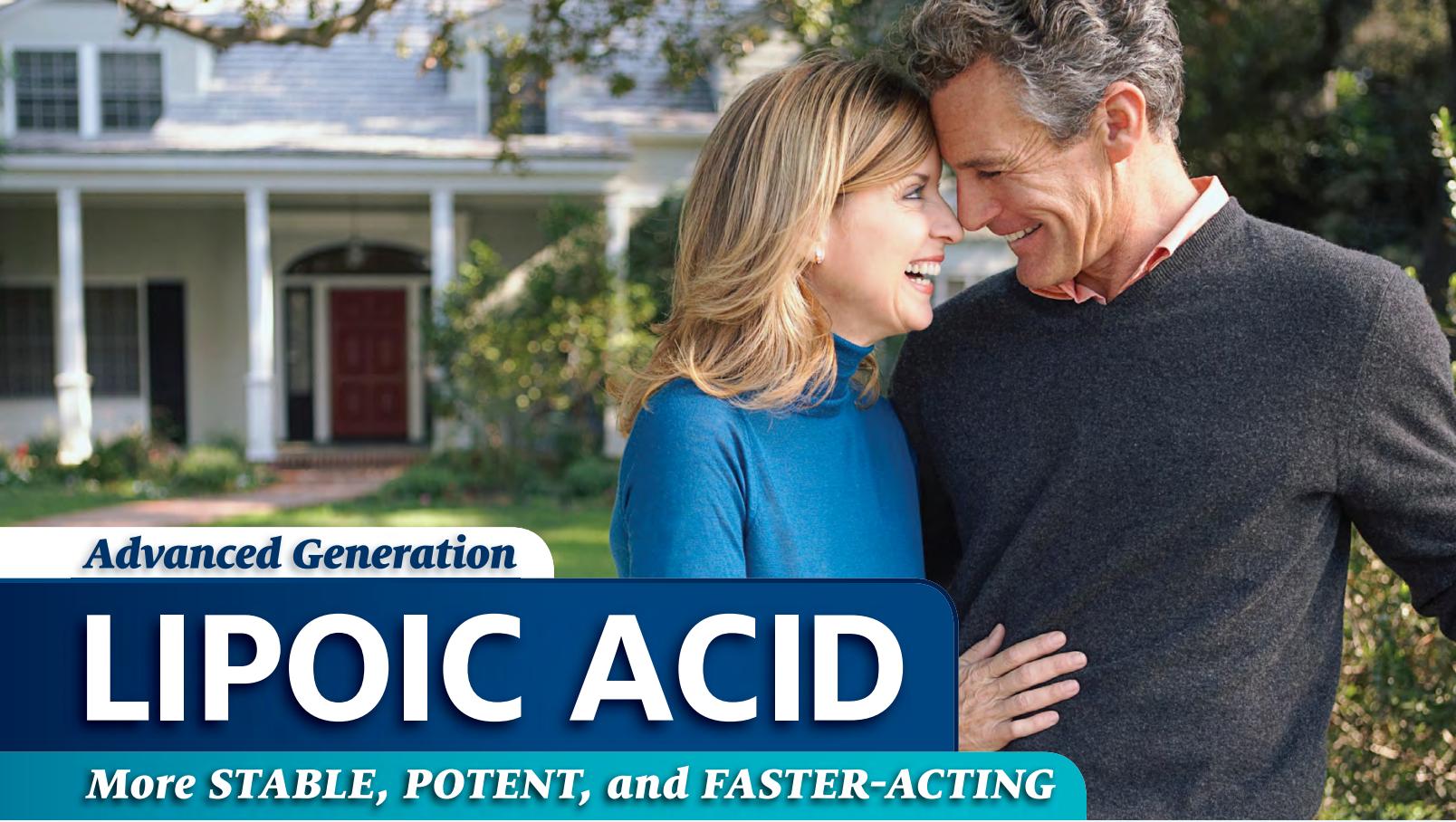
"The significance of the findings in our report, however, require further investigation in a clinical endpoint trial," they added.

The CoQ10 used in this study was provided by Blackmores (Balgowlah, Australia), and the study was funded by a CardioVascular Lipid Research grant from Pfizer.

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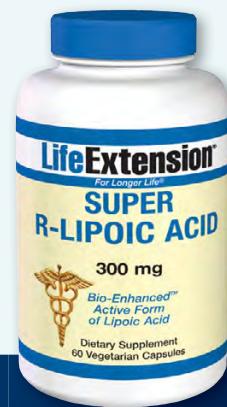
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How Much Curcumin Are You Absorbing?

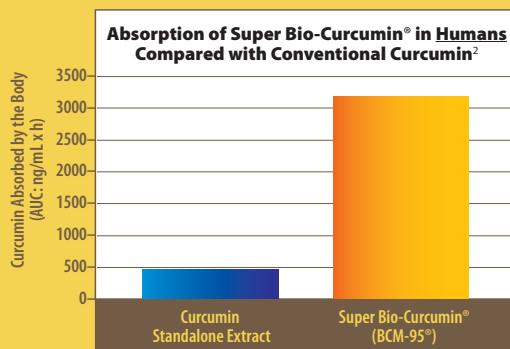


Chart 1. Super Bio-Curcumin® (BCM-95®) showed 6.9 times greater bioavailability (absorption and sustainability over 8 hours) in humans compared with conventional curcumin (as measured by the area under the curve [AUC] in a plot of blood levels against time, that is, the total amount of curcumin absorbed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

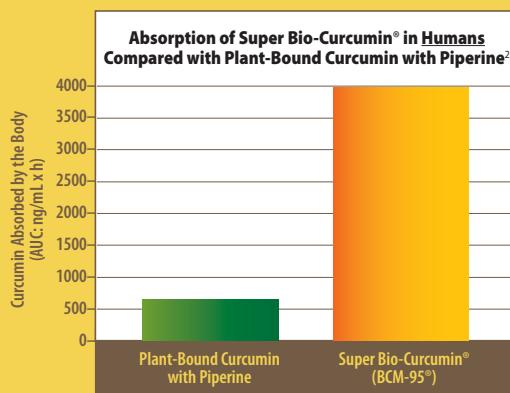


Chart 2. Super Bio-Curcumin® (BCM-95®) showed 6.3 times greater bioavailability (absorption and sustainability over 8 hours) in humans compared with plant-bound curcumin with piperine (as measured by the area under the curve [AUC] in a plot of blood levels against time, that is, the total amount of curcumin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

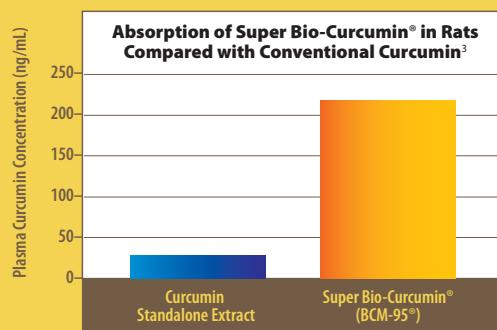


Chart 3. Bioavailability in rats fed with BCM-95® is 7.8 times higher than conventional curcumin.

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

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

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

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

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

SUPER BIO-CURCUMIN® WITH BCM-95®



ITEM #00407

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

References:

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

To order Super Bio-Curcumin® with BCM-95®, call 1-800-544-4440 or visit www.LifeExtension.com

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

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.

Red yeast rice is produced by fermenting polished rice with various strains of the yeast *Monascus purpureus*. It contains numerous natural extracts including **monacolins** and **sterols**.

Choosing the **right** red yeast rice can be difficult as its popularity has resulted in a broad array of products that vary widely in both quality and purity.

Of particular concern is **citrinin**, a potentially toxic compound formed during the manufacturing process that has been found in some red yeast rice supplements.

Life Extension® does not make a red yeast rice supplement, but has *evaluated* commercial sources using the most sophisticated high-resolution analytical techniques to detect **citrinin** content.

In addition to providing high-grade, standardized red yeast rice extracts, no citrinin was detected in the following brands of red yeast rice:

NATURE'S PLUS

Nature's Plus Herbal Actives red yeast rice provides a high concentration of active botanical principles. This uniformly standardized supplement maximizes efficient delivery of the whole red yeast rice extract. The suggested serving size is one **600 mg** capsule per day, although some individuals may choose to ingest up to **1,800 mg per day**.



Item # 00979

Nature's Plus Red Yeast Rice

600 mg • 60 vegetarian capsules • Item# 00979
A bottle containing 60 capsules of **Nature's Plus Red Yeast Rice** retails for \$22.75. Life Extension members pay only **\$17.06** per bottle.

BLUEBONNET

Bluebonnet's red yeast rice extract also meets Life Extension's standards for quality and purity—with no **citrinin** detected. The suggested serving size is one **600 mg** capsule per day, although some individuals may choose to ingest up to **1,800 mg per day**.



Item # 01030

Bluebonnet Red Yeast Rice

600 mg • 60 vegetarian capsules • Item# 01030
A bottle containing 60 capsules of **Bluebonnet Red Yeast Rice** retails for \$15.95. Life Extension members pay only **\$11.96** per bottle.

CHO-LESS

Individuals who wish to obtain a red yeast rice supplement along with other beneficial nutrients may choose **Cho-Less**, which features the following ingredients:

Serving size: 2 capsules	Amount per serving
Red yeast rice	505 mg
Artichoke leaf extract	100 mg
Pantethine	100 mg
Guggul standardized extract	95 mg
Beta-sitosterol	90 mg
Niacin	90 mg
Policosanol	20 mg
Total	1,000 mg

The suggested use for **Cho-Less** is two capsules, 2-3 times per day.



Item # 01359

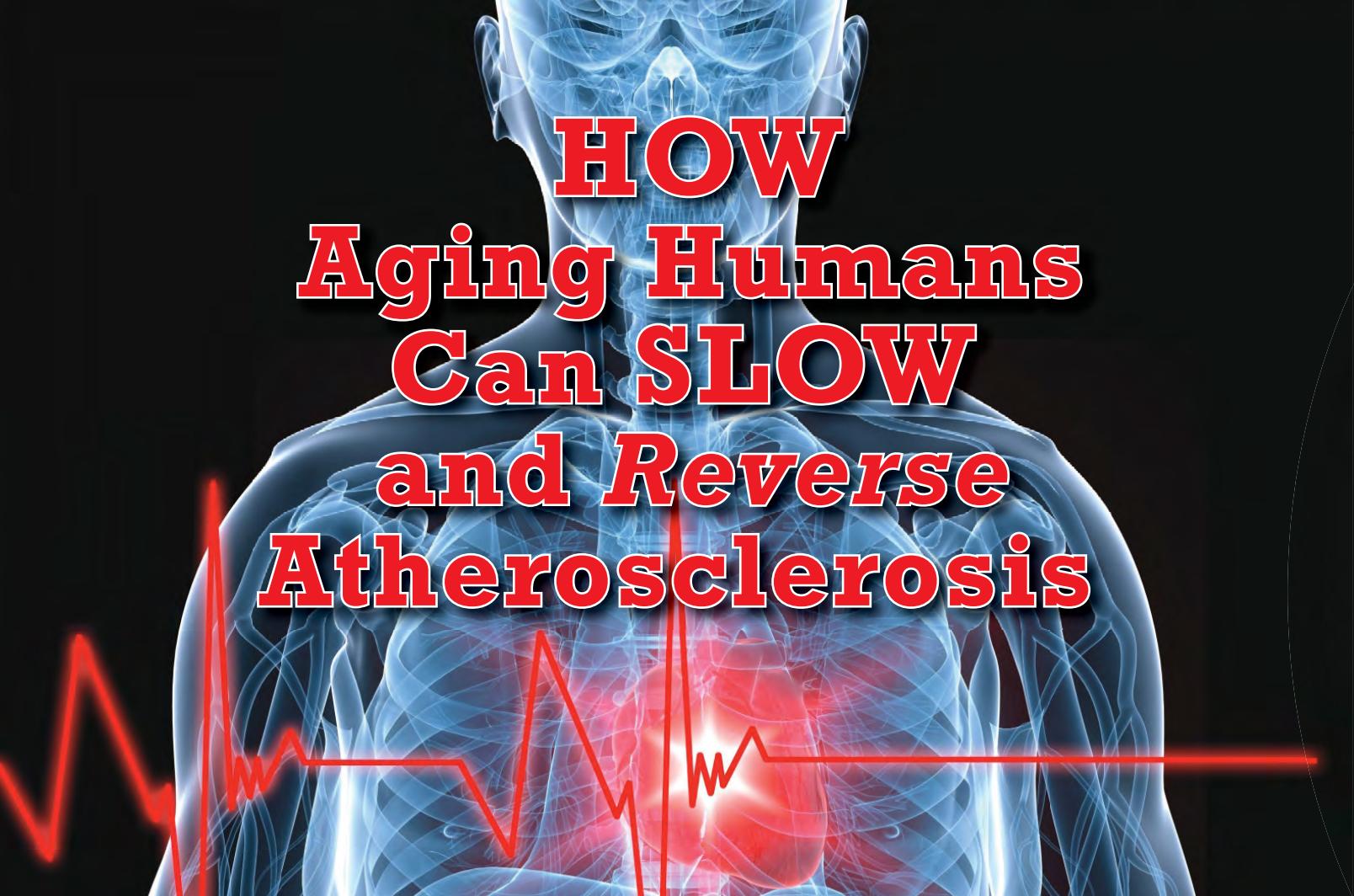
Cho-Less

90 capsules • 1,000 mg • Item# 01359
A bottle containing 90 capsules of **Cho-Less** retails for \$32.50. Life Extension members pay only **\$24.38** per bottle.

RED YEAST RICE SUPPLEMENTS Tested for Purity

To order any of these standardized and purified red yeast rice supplements, call 1-800-544-4440 or visit www.LifeExtension.com.

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



HOW Aging Humans Can SLOW and Reverse Atherosclerosis

Scientists long ago documented the ability of **HDL** (high-density lipoprotein) to remove cholesterol affixed to arterial walls and transport it to the liver for safe disposal.

This is why it is so important to maintain **HDL** levels above 50 mg/dL of blood and follow steps **Life Extension®** has outlined to ensure optimal reverse cholesterol transport of lipids away from the arterial wall.

HDL does more than just cleanse arterial walls of plaque. It also protects **LDL** against oxidation, while inhibiting chronic inflammation, vascular adhesion molecules, and platelet activation—factors that can all lead to atherosclerosis.

For **HDL** to perform its vital functions, an enzyme called paraoxonase-1 (PON-1) is attached to its surface.

As humans age, **PON-1** levels markedly decline, thereby reducing the ability of HDL to protect against **heart attack** and **stroke**. This phenomenon helps explain the onset of accelerated atherosclerosis; where within a period of only a few years, an aging person's healthy arteries rapidly occlude with plaque.



BY RICHARD HATHAWAY

The age-related reduction in **PON-1** may also explain studies showing that **statin drugs** lose their benefit in certain aging populations, since the effects of statins are no longer sufficient to protect against the **multiple factors** involved in the development of **atherosclerosis** in the elderly.¹⁻³

Lipid peroxidation is a **free radical reaction** that severely damages cell membranes and is implicated in a host of degenerative diseases. **PON-1** blocks destructive **lipid peroxidation** reactions,⁴⁻⁷ making it a crucial **enzyme** for aging humans to maintain.

PON-1 is anchored to the surface of **HDL** and is emerging as a formidable defense against **atherosclerosis, diabetes, stroke, arthritis**, and certain forms of **cancer**.

Pharmaceutical companies would pay a king's ransom for a **drug** that elevates **PON-1** levels in the body. Fortunately, scientists have discovered low-cost **natural** methods to elevate PON-1 and unleash its full anti-oxidant and anti-inflammatory power.

This article uncovers research substantiating the anti-aging effects of PON-1—and how nutrients that most **Life Extension** members already take boost **PON-1** activity for maximum benefit. > >

Reduce Your Cardiac Risk Factors

Atherosclerosis is a leading cause of death in the Western world.⁸ A growing body of clinical evidence suggests that **PON-1** (paraoxonase-1) may very well serve as one of the body's primary defenses against it.

PON-1 is an enzyme produced in the liver and released into the blood, where it attaches *exclusively* to the **HDL** molecule.⁹ As an enzymatic engine that supports HDL's beneficial action, PON-1 has been shown to *inhibit* the accumulation of lipoperoxides in **LDL** cholesterol—the process that results in oxidized LDL's accumulation on arterial walls, leading to deadly hardening of the arteries.^{5,6,10}

What few individuals know is that HDL *loses* its ability to prevent LDL oxidation over time—and there is evidence that an age-related drop in serum PON-1 levels may be part of the reason.¹¹ By preserving HDL's integrity, activity, and efficacy, PON-1 helps HDL protect arterial health.

PON-1 selectively breaks down oxidized fats, acting as a “cleanup” system to prevent oxidized molecules from triggering inflammatory cells in the blood^{5,6,12} (one of the mechanisms of action behind HDL's heart-protective benefit).¹³ Increases in PON-1 activity after red wine consumption provided some of the first clues to why red wine, and specifically its active component, **resveratrol**, are protective against cardiovascular diseases.¹⁴⁻¹⁶

In mice genetically engineered to *lack* the PON-1 gene, scientists have found a dramatic increase in oxidative stress on macrophages, immune cells that can become laden with oxidized lipids and contribute to a pro-atherogenic cascade of inflammation in vessel walls.⁴

Similarly, humans with low PON-1 levels are at substantially increased risk for cardiovascular events compared with those who have normal levels.¹⁷ Healthy humans endowed with the most active genetic expression of PON-1 also display enhanced protective responses to natural antioxidants.^{10,18} New methods of measuring PON-1 activity in the blood show that it is correlated to coronary artery disease risk, *regardless* of lipid profiles or lipid-lowering therapy.¹⁹

PON-1 is more closely related to cardiovascular risk in individuals *already* at high risk for atherosclerosis. People with chronic kidney disease on hemodialysis, for example, have **30%** less PON-1 activity than normal, which produces a startling **127% decrease** in their HDL's antioxidant function.²⁰ PON-1 levels, in fact, are an accurate predictor of cardiovascular mortality in kidney hemodialysis patients. Lower than average PON-1 levels were not only predictive of cardiovascular mortality, but also of all-cause mortality.⁷



In addition to its ability to protect HDL against oxidation, PON-1 has also been shown to hydrolyze (break apart) *homocysteine* thiolactones,²¹ which are responsible for damage to blood vessels. So PON-1 on its own is a blood vessel protector.

Evidence from animal research on PON-1 uniformly shows that PON-1 is protective against atherosclerosis. However, it has not been possible to definitively determine if decreased PON-1 activity is the *cause* of cardiovascular events, or a reflection of the events themselves.⁶ Prospective studies are needed to make this determination. Until now, there has been only one such study, and it clearly showed that low PON-1 in the blood was an *independent* risk factor for coronary events in men with pre-existing coronary artery disease.²²

However, the increasingly persuasive substantiation of the relationship between PON-1 and a broad spectrum of cardiac risk factors has prompted

researchers to deem this enzyme “a player in cardiovascular medicine”²³ and “an important target for future pharmacological agents aimed at decreasing cardiovascular risk.”⁹

A Potent Weapon Against Diseases of Aging

With the boom in scientific interest in PON-1 over the past two decades,²³ the documented range of its disease-fighting modes of operation in the body continues to broaden. As leading researcher Janice E. Chambers of Mississippi State University puts it, PON-1 has emerged as a “multitasking protein.”²⁴

A growing roster of chronic, age-related conditions has been associated with dangerously low PON-1 levels. They also happen to be associated with significantly *elevated* levels of lipid peroxidation. This in turn increases the amount of PON-1 the aging body *needs* to compensate for the onslaught of oxidative damage to healthy cells.

To take one example, researchers have recently discovered that overweight individuals and those suffering from metabolic syndrome display a demonstrable *decrease* in PON-1 activity, rendering them still *more* vulnerable to cardiovascular disease.^{25,26}

PON-1 plays a number of essential roles in preventing diabetes and its consequences, particularly in managing the postprandial (after-meal) spikes in blood sugar that produce deadly **advanced glycation end products** (AGEs). When blood sugar levels rise, liver production of PON-1 increases as well, possibly to compensate for the oxidative stress induced by glucose.²⁷

This appears to be the reason why PON-1 levels *increase* following a meal in non-diabetic people, preventing oxidation levels in healthy tissue from rising.²⁸ But in diabetics and people with **impaired glucose tolerance** (pre-diabetics), oxidation products rise rapidly after eating. Diabetics actually have a significant *decrease* in postprandial PON-1 concentrations, further boosting their risk for cardiovascular disease.²⁸

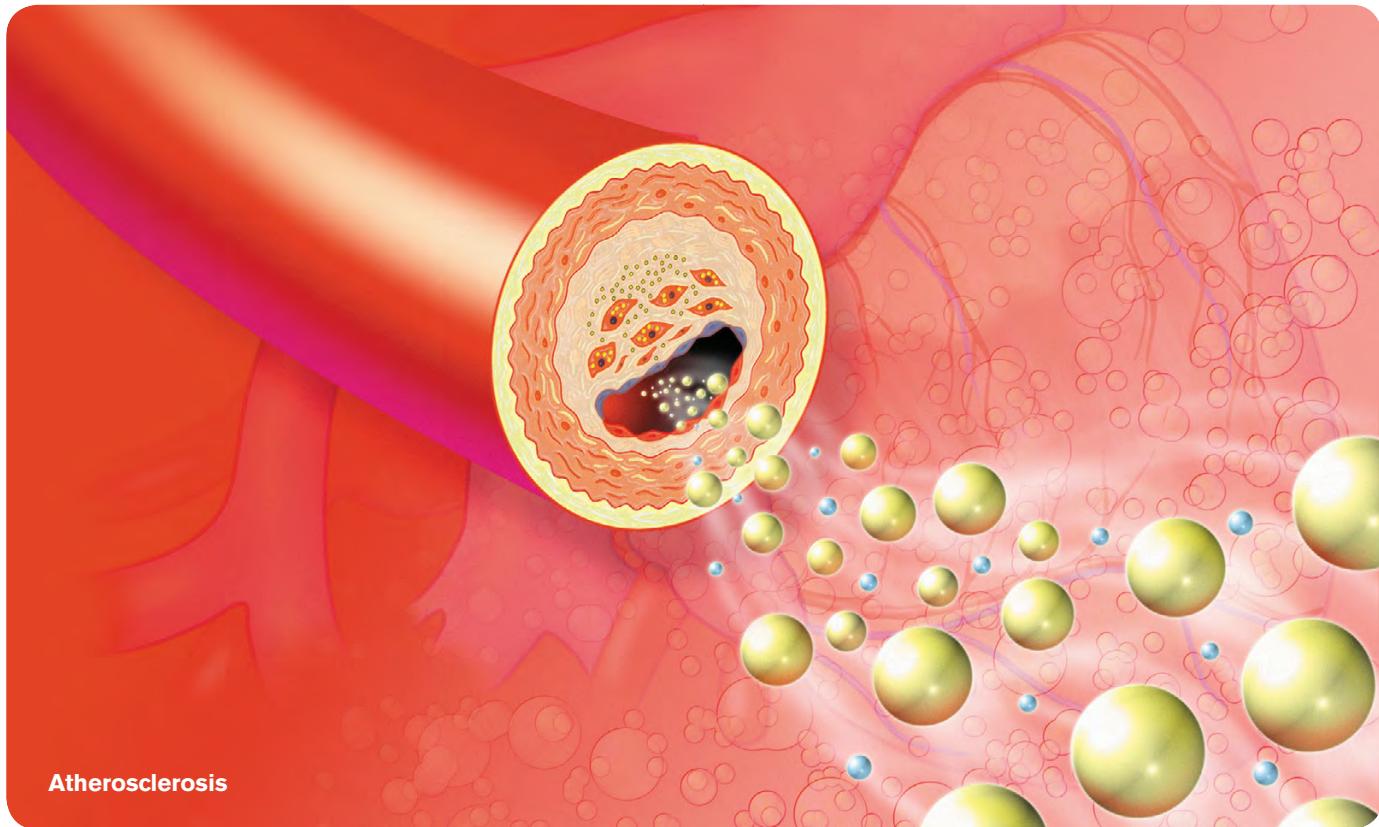
The considerable number of people infected with *Helicobacter pylori*—a bacterium closely associated with ulcers and cancer of the stomach—also suffer from elevated oxidative stress, lower PON-1 levels, *and* increased risk of atherosclerosis.²⁹ People with high **homocysteine** may have dysfunctional HDL molecules characterized by reduced PON-1 activity, which appears to account in part for their higher cardiovascular risk.³⁰

Even those with seemingly unrelated diseases of aging—including **osteoarthritis** and **age-related macular degeneration** (AMD)—exhibit diminished

Slowing and Reversing Atherosclerosis

- Lipid peroxidation—the continuous onslaught of free radical damage to cell membranes—is a primary aging factor implicated in a host of degenerative diseases.
- A little-known enzyme called **PON-1** has drawn increasing scientific interest because of its demonstrated ability to *block* lipid peroxidation.
- Individuals suffering from obesity, metabolic syndrome, diabetes, elevated homocysteine, and other inflammatory conditions have been shown to have low PON-1 levels.
- A correlation has been demonstrated between PON-1 levels and cardiovascular disease risk.
- Pomegranate and its extracts have been shown to powerfully increase PON-1 levels and activity in the blood.
- This effect is achieved through upregulation of PON-1 genes, stabilization of PON-1 levels, and protection from oxidative damage.
- Strong scientific evidence points to pomegranate’s PON-1-boosting effects as a key reason for its cardioprotective effect.
- Resveratrol and quercetin are also emerging as potential PON-1 boosters.





PON-1 activity.^{31,32} High LDL and low HDL cholesterol levels commonly occur in individuals with AMD, further increasing susceptibility to lipid peroxidation and cardiovascular disease.

How to Boost Your PON-1 Levels

The most recent research indicates that **pomegranate** and its extracts can significantly *elevate* levels of PON-1 activity in the body. Pomegranate does this through a number of distinct biomolecular pathways that include combating **inflammation** and **LDL adhesion** and favorably modulating **gene expression**.

Pomegranate extracts reduce oxidation and inflammation largely through their effect on PON-1 activity, intervening at each step in the development of atherosclerosis.³³

Atherosclerosis begins with **oxidation** of LDL cholesterol. Damaged LDL “clumps” together and accumulates in specialized immune system cells called **foam cells**. The foam cells invade blood vessel walls, triggering **inflammatory** responses and the formation of early atherosclerotic plaque.

Inflamed plaque attracts clot-forming platelets, leading ultimately to a narrowing of blood vessels that restricts blood flow. When inflamed plaques rupture—or clots form that block blood flow entirely—tissue

dies, producing a heart attack or stroke, depending on location.

A dedicated group of Israeli researchers led the way in detailing how **pomegranate** *disrupts* atherosclerosis formation at each of these developmental phases—and the crucial role PON-1 plays in this process. They began with a landmark study in 2000 that focused on pomegranate’s antioxidant properties.

The team started with a group of healthy male volunteers, along with laboratory mice genetically engineered to develop atherosclerosis.³³ When human subjects consumed **pomegranate juice** for **2 weeks**, the researchers found dramatic reductions in LDL “clumping” and retention in vessels, accompanied by a **20% increase in PON-1 activity**. In the atherosclerosis-prone mice, a **90%** reduction in oxidation of LDL cholesterol was seen. Supplemented mice also developed atherosclerotic lesions **44%** smaller than unsupplemented controls, an effect attributed to reduction in the number of inflammatory foam cells.

The Israeli researchers went on to show that concentrated pomegranate *extract* and pomegranate juice induced *profoundly* protective effects—even in mice with advanced atherosclerosis.³⁴ Pomegranate not only reduced accumulation of oxidized fat in macrophages within cells—it **reversed** it, boosting the *outflow* of cholesterol by **39%**! In other words, pomegranate may

be able to interrupt and even *reverse atherosclerosis*, not just prevent it.

After the Israeli group's landmark discoveries, additional supportive evidence emerged. The scientists found that **pomegranate polyphenols** accumulated **inside** of the arterial macrophages (immune cells) that absorb LDL cholesterol, preventing them from oxidizing their LDL burden and keeping them from turning into dangerous foam cells.³⁵ They also observed that **pomegranate-induced elevation** in **PON-1** activity stimulated the breakdown of existing oxidized LDL cholesterol—even in atherosclerotic plaques that have already formed.

Additional findings of interest were evinced in patients with **carotid artery stenosis**,³⁶ a narrowing of the main blood vessels supplying the brain. These individuals are at very high risk for stroke.

After one year, patients in this study given **pomegranate** experienced an **83%** increase in **PON-1** levels and their **oxidized LDL** levels consequently fell by a remarkable **90%**. The placebo group worsened by **9%** whereas carotid artery narrowing was **reversed** by **30%** in the **pomegranate supplemented** patients. This translates to a significant *increase* in blood flow to the brain in those using pomegranate. Both groups continued taking their conventional medications.³⁶

PON-1's capacity to powerfully inhibit **lipid peroxidation** in this pomegranate study cohort appears to have resulted in substantial *reduction* in **stroke** risk for patients with atherosclerosis. Other benefits were seen as well: serum levels of antibodies directed against oxidized LDL (important contributors to the inflammatory component of atherosclerosis) fell by **19%**, while total plasma antioxidant status rose by an astounding **130%**. Systolic blood pressure was also reduced by **12%** in supplemented patients over the course of a year.³⁶

Evidence has also come to light for PON-1's role in diabetes management through pomegranate consumption. When patients with type 2 diabetes were compared to healthy controls, their PON-1 levels were found to be depressed by **23%**. When these same patients were given pomegranate juice (**50 mL/day** for 3 months), their serum PON-1 activity rose by **24%**, helping restore it to healthy levels.³⁷

In 2007, researchers discovered pomegranate polyphenols upregulated genes for **PON-2** in LDL-scavenging macrophages.³⁸ PON-2 is a molecule closely related to **PON-1** that exerts similarly beneficial effects. The resulting increase in production of PON-2 directly improved these cells' oxidative status.

Upregulation of PON-1 genes has also been documented in liver cells exposed to **pomegranate polyphenols**—a critical benefit, since liver cells are

responsible for PON-1 production.³⁹ In the past few years researchers have also demonstrated that pomegranate **stabilizes** PON-1's molecular bond with beneficial **HDL**. PON-1 molecules can degrade over time, detaching from the "mother" HDL molecule. Pomegranate extracts have been shown to strengthen and support the molecular bond between PON-1 and HDL complexes—thereby protecting **HDL** from oxidative decay.^{40,41}

Other PON-1 Enhancers

Strong evidence has recently emerged for several compounds with known cardioprotective effects that may also favorably increase your PON-1 levels. Moderate consumption of wine, beer, and spirits is associated with an increase in PON-1 activity.⁴² Red wine polyphenols increase PON-1 activity and reduce LDL oxidation.^{16,43,44} Specifically, **resveratrol**, the best-known of the red wine polyphenols, exerts powerful control over the PON-1 gene, increasing PON-1 expression in human liver cells and protecting against atherosclerosis in animal models.^{45,46} (The liver is where PON-1 is produced in the body.)

Quercetin, another polyphenol found in red wine and many other plant sources, also upregulates PON-1 gene expression, protecting against LDL oxidation.⁴⁷ Quercetin also possesses numerous mechanisms of action. Like **pomegranate**, it helps stabilize and preserve PON-1 activity against oxidative stress.⁴⁸



Summary

Lipid peroxidation—free radical damage to healthy cell membranes—is a primary aging factor implicated in the onset of numerous degenerative diseases. **PON-1 (paraoxonase-1)** is an under-recognized *enzyme* attached to beneficial **HDL** that has been shown to *block* lipid peroxidation. Recent research suggests that **PON-1** may serve as a formidable defense against numerous diseases of aging, including heart disease, metabolic syndrome, arthritis, and certain cancers.^{26,29,32,49,50} **PON-1** levels decrease with advancing age, contributing to a decline in the cardioprotective effect of HDL. **Pomegranate** has been shown to elevate PON-1 activity and support its activity in the body. It has been shown to upregulate the gene that governs PON-1 production, increasing its output in liver cells and elevating its concentration in



the blood. Pomegranate extracts protect and sustain PON-1 activity at the molecular level, preventing its degradation, and maintaining its bond within the HDL molecular complex. Emerging evidence suggests that **resveratrol** and **quercetin** may exert similar effects on **PON-1** levels and activity. ●

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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3 WAYS TO BENEFIT FROM CALORIE RESTRICTION

1

EAT LESS

Controlled studies in primates reveal that *modest* calorie reduction (only **30%**) yields a **huge** reduction in the risk of issues associated with aging. For example, a recent study in *Science* showed that modest calorie restriction in primates provided a 50% improvement in cardiovascular support.¹ Studies on humans show that a calorie reduction of only **20%** dramatically improves biomarkers associated with longevity.²⁻⁴

For those who find it difficult to ingest **20-30%** fewer calories, consider one or more of the following natural approaches:

1. Pinolenic acid is a polyunsaturated fatty acid derived from pine nuts. It stimulates secretion of the hunger-suppressing hormones **cholecystokinin** (CCK) and **glucagon-like peptide-1** (GLP-1). Human studies showed that participants taking pinolenic acid reduced their food intake by **36%**...more than enough to accomplish *modest* calorie restriction. Pinolenic acid is the active ingredient in a supplement called **Natural Appetite Control**. Those seeking to reduce daily calorie intake should take **three** capsules of **Natural Appetite Control** before most meals.

Natural Appetite Control was developed for adults seeking to lower their calorie intake and maintain a successful, long-term weight management program. Each softgel of **Natural Appetite Control** provides **1,000 mg** of standardized extract of Korean pine nuts containing the highest concentration of pinolenic acid found in any pine nut species, which stimulate the release of two of the body's most powerful hunger-suppressing hormones.

A bottle of 90 softgels of **Natural Appetite Control** retails for \$28. If a member buys four bottles, the price is reduced to **\$18.90** per bottle. **Item # 00891**



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

2. Ingest **six grams** of **soluble fiber** before each meal. Studies show that pre-meal fiber intake helps induce early satiety. One or more of the following low-cost fiber supplements can be used:

Fiber Food is a natural bulk-producing soluble fiber consisting of psyllium, guar gum, and apple pectin that is available both in capsule and powder forms.

A bottle of 200 capsules of **Fiber Food Capsules** retails for \$15. If a member buys four bottles, the price is reduced to **\$9.38** per bottle. **Item# 00229**



A bottle of 300 grams of **Fiber Food Powder** retails for \$15. If a member buys four bottles, the price is reduced to **\$9.38** per bottle.

Item#00228

CocoaGold™ with Beta-Glucan

This combination powder provides **standardized cocoa extract** plus oat **beta-glucans**. The **CocoaGold™** polyphenols support healthy insulin sensitivity, while **beta-glucan** fiber delays **carbohydrate** absorption. **Beta-glucans** have a slower and more sustained effect on blood glucose and energy.

A jar of 180 grams of **CocoaGold™ with Beta-Glucan** retails for \$20. If a member buys four jars, the price is reduced to **\$13.50** per jar. **Item# 01285**



To order the new
**CALORIE RESTRICTION
MIMETIC FORMULA**

or any of the other supplements that help protect against chronically bloated bloodstreams, call **1-800-544-4440**
or visit www.LifeExtension.com



REDUCE THE EFFECT OF EXCESS CALORIES

Famine prevailed throughout most of mankind's evolutionary history. Those who efficiently absorbed and stored scarce calories are our direct ancestors. With abundant quantities of calorie-dense foods, it is no wonder that problems associated with excess food intake are so prevalent in modern-day societies.

Excess consumption of dietary fat and carbohydrate results in rapid spikes in levels of fat (triglyceride) and sugar (glucose) in the blood. Regrettably, many people are not aware of the age-accelerating consequences of **postprandial overload**. Elevated levels of post-meal blood fat (triglycerides) and blood sugar (glucose) accelerate the aging process in our cardiovascular system.

Ingested foods are broken down by *digestive enzymes* before they are *absorbed* into the bloodstream.

Green and black tea polyphenols target the fat-digesting enzyme *lipase*. **Theaflavins** from **tea polyphenols** have been shown in experimental studies to help reduce the post-meal impact of ingested fat calories in a dose-dependent manner.⁶

Most of us eat too many refined carbohydrates that add to the calorie burden. The enzymes *amylase*, *glucosidase*, and *sucrase* break down ingested carbohydrates to smaller starch and sugar particles. Nutrients such as **white kidney bean** (targets amylase activity),⁷⁻⁸ **InSea™** (targets amylase and glucosidase activity),⁹ **Irvingia** (targets amylase activity)¹⁰⁻¹¹ and **L-arabinose** (targets sucrase activity)¹² have been shown in published scientific studies to help reduce the metabolic impact of ingested carbohydrate calories from dietary starch and/or sugar. These *nutrients* are all contained in the new **Optimized Irvingia** formula.

Optimized Irvingia with Phase 3™ Calorie Control Complex contains *Green Tea Phytosome Extract* to slow down the breakdown and absorption of dietary fat, **Phase 2® White Kidney Bean** extract to moderate *alpha-amylase* activity, **InSea^{2TM}** seaweed extract, which can help support a slowing

of the rate of carbohydrate absorption from the intestines, **Irvingia gabonensis** extract for *leptin sensitivity* support, and **Phase 3™ Sucrase Modulator** to reduce the number of absorbed calories from sugar. Directions are to take two capsules before the two heaviest meals of the day. A bottle of **120** capsules of **Optimized Irvingia with Phase 3™ Calorie Control Complex** retails for \$78. If a member buys four bottles, the price is reduced to

\$54 per bottle. Item# 01492



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Integra-Lean® Irvingia is protected by U.S. Patent No. 7,537,790. Other patents pending. InSea2™ is a trademark of innoActiv™. Phase 2 and Phase 3 are used under license.

CONTROL YOUR GENE EXPRESSION

Restricting the amount of calories allowed into your blood stream *increases* healthy life span via several mechanisms. Cardiovascular support can be maintained by blunting the post-meal surge of glucose, insulin, triglycerides, and inflammatory-inducing compounds that engorge the bloodstream following eating binges.

Scientists, however, are focused on an even more important mechanism to explain how *calorie restriction* so radically extends life span. They have uncovered favorable alterations in **gene expression** in response to reduced calorie intake. It turns out that caloric restriction slows aging by **activating** beneficial "youth" genes while disabling detrimental "senescence" genes.

The incredible news is that a select group of nutrients has been discovered that trigger many of the favorable mechanisms (including more youthful **gene expression** patterns) as **caloric restriction**.

Among the most promising of these **caloric restriction mimics** and enhancers are **resveratrol**, **pterostilbene**, **quercetin**, and **grape seed polyphenols**, along with **black tea extract**. These nutrients have been shown to generate many of the same effects in the body as caloric restriction, without significant dietary modification.¹³⁻²⁰ In particular, they help "mimic" caloric restriction's favorable impact on **genes** that influence the aging process.¹³⁻²⁰

Genes have the capacity to directly affect life span by regulating a broad spectrum of aging factors. Calorie restriction exerts a beneficial effect on the *activity of gene expression*, supporting healthy cellular function through numerous physiological pathways.²¹ Compounds that mimic caloric restriction bring about favorable changes in *gene expression* and improve the primary *biomarkers* of aging.²²

Those taking high-dose vitamin D, along with coenzyme Q10 and fish oil are already favorably altering many of their gene expression patterns. A new **Calorie Restriction Mimetic Formula** includes **resveratrol**, **pterostilbene**, **quercetin**, **grape seed polyphenols**, and **black tea extract** to provide even broader-spectrum gene expression support in one nutritional compound. Two capsules of the new **Calorie Restriction Mimetic Formula** provides:



Item #01419

Trans-Resveratrol	250 mg
Trans-Pterostilbene	3 mg
Quercetin	150 mg
Black tea extract	300 mg
Grape seed polyphenols	50 mg

A bottle containing 60 vegetarian capsules of the new **Calorie Restriction Mimetic Formula** retails for \$36. If a member buys four bottles, the cost per bottle is reduced to **\$24.75**. Item# 01419

While the new **Calorie Restriction Mimetic Formula** can enable aging individuals to *simulate* many of the beneficial **gene expression** effects associated with caloric restriction, **Life Extension** members are still urged to reduce their pathologic calorie burden by following steps #1 and #2 as outlined herein.

Fight Back Against Aging!

Aging is Characterized by Inflammation, Glycation, and Mitochondrial Decay

The loss of cellular vitality is caused by a number of factors, including **mitochondrial problems**, **glycation**, and **free-radical reactions**. Life Extension® members have access to a state-of-the-art nutritional formula called **MITOCHONDRIAL ENERGY OPTIMIZER** that helps protect delicate cellular structures and enables cells to perform life-sustaining metabolic processes.

MITOCHONDRIAL ENERGY OPTIMIZER is designed to counteract age-related structural and functional changes by providing the following unique ingredients:

■ **CARNOSINE** As humans age, proteins in their bodies become **irreversibly damaged** by **glycation** reactions. *Glycation* is the cross-linking of proteins and sugar to form **non-functioning** structures (Advanced Glycation End-Products or "AGEs") in the body, which can lead to alterations of normal cell function. **Carnosine** is not only a powerful **anti-glycating** agent, but it also protects **neurons** against reactive and cytotoxic protein carbonyl species associated with normal aging.¹⁻⁵

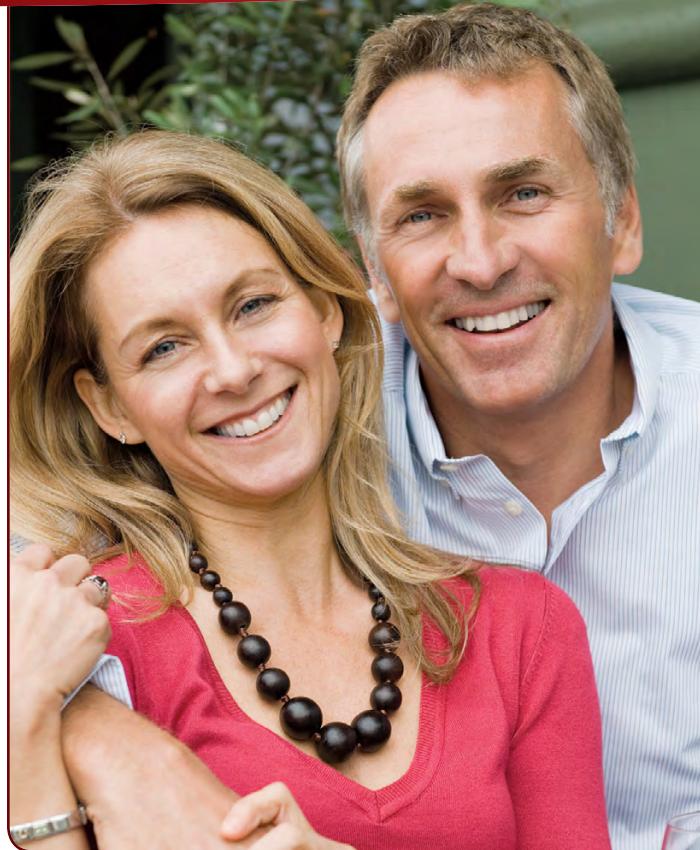
■ **LUTEOLIN** Systemic inflammation is involved in most undesirable consequences of aging. Culprits behind **chronic inflammatory** reactions are pro-inflammatory **cytokines**, such as **interleukin-1** and **tumor necrosis factor alpha**. *Luteolin* is a super-potent plant extract that has been shown to modulate these dangerous inflammatory cytokines.⁶⁻¹¹

■ **BENFOTIAMINE** Effectively modulates multiple destructive biochemical pathways, including AGEs' formation pathway, which are induced by higher than desirable blood glucose levels. Human mortality studies indicate that *ideal* fasting glucose levels are between **74–85 mg/dL**. Yet many aging people have fasting glucose above **90 mg/dL**, which is less than optimal.¹²⁻¹⁴ Benfotiamine protects endothelial cell integrity from the effects of high glucose levels. In addition, benfotiamine exhibits direct antioxidative capacity and prevents induction of DNA damage.¹⁵

■ **PYRIDOXAL 5'-PHOSPHATE** Aging results in the formation of **advanced glycation end-products** throughout the body. **Pyridoxal 5'-phosphate** is the active form of vitamin B6 that has been shown to protect against both lipid and protein **glycation** reactions.¹⁶⁻¹⁹

■ **R-LIPOIC ACID** Destructive free-radical activity in the **mitochondria** plays a major role in the loss of cellular vitality. A **microencapsulated** Bio-Enhanced® **R-lipoic acid** facilitates youthful **mitochondrial energy output** while guarding against **free radicals**. Two forms of lipoic acid are sold on the supplement market, but **R-lipoic acid** is far more potent.²⁰⁻²³

■ **ACETYL-L-CARNITINE ARGINATE** The amino acid L-carnitine is required to transport fats into the **mitochondria** to be burned for cellular energy. **Acetyl-L-carnitine arginate** is a patented form of carnitine that also **supports neurites** in the brain.²⁴



Taking all of the individual ingredients in the **Mitochondrial Energy Optimizer** separately would be prohibitively expensive, but Life Extension® members obtain this comprehensive formula at substantial savings.

A bottle of **Mitochondrial Energy Optimizer** containing **120 capsules** retails for \$86. If a member buys four bottles, the price is reduced to **\$58.50** per bottle.

Just four capsules of the
Mitochondrial Energy Optimizer provide:

Carnosine.....	1000 mg
Acetyl-L-carnitine arginate DiHCl	700 mg
Bio-Enhanced® R-Lipoic acid	150 mg (microencapsulated)
Benfotiamine	150 mg
Pyridoxal 5'-Phosphate	100 mg
Luteolin.....	8 mg



Bio-Enhanced® is a registered trademark of GeroNova Research, Inc.

To order Mitochondrial Energy Optimizer, call **1-800-544-4440** or visit www.LifeExtension.com

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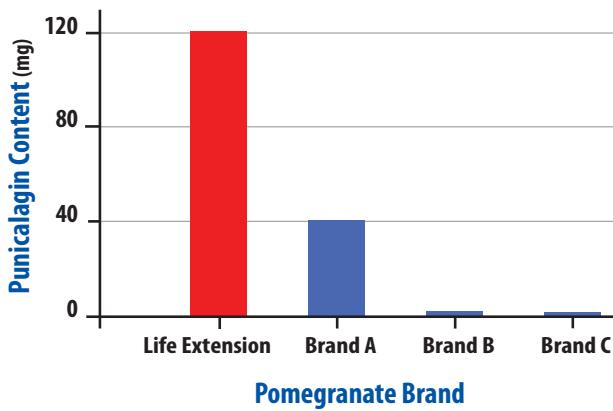
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How Potent is Your POMEGRANATE?

Some nutrients are easy to compare, but not pomegranate. The key factor is how much active ingredient is **absorbed** into your bloodstream.

Many pomegranate supplements are standardized for **ellagic acid**, but not the **punicalagin polyphenols** that make this fruit so unique. The reason that **punicalagins** are so important is that they are **95% absorbed** into the blood.¹

We assessed three popular pomegranate supplements and found them to be woefully **deficient** in bioavailable **punicalagins**. The chart below compares these leading pomegranate supplements to Life Extension®'s proprietary blend of **punicalagin polyphenols**:



Pomegranate supplements with higher levels of **punicalagins** provide systemic benefits to cells throughout the body. Based on the weighted cost per gram, the cheapest pomegranate brand tested (Brand A) was half the price of *Life Extension's* capsules, but it had only a third of the punicalagin content (**40 mg** compared with **120 mg**). More expensive pomegranate brands (Brands B and C) contained only ellagic acid extract and not the full-spectrum polyphenols with **punicalagins**, limiting their effectiveness in the body.

If you take pomegranate for its unique benefits for arterial and prostate health, you can rest assured that **Life Extension Pomegranate** supplements are more potent and cost-effective. Just one capsule a day provides the natural concentration of polyphenol antioxidants with the same potency of biologically active **punicalagin polyphenols** found in **eight ounces** of **pomegranate juice** (plus standardized **cocoa polyphenols**).

A bottle of **30** vegetarian capsules of **Pomegranate Extract with CocoaGold™** retails for \$24. If a member buys four bottles, the cost is only **\$15.75 per bottle**.

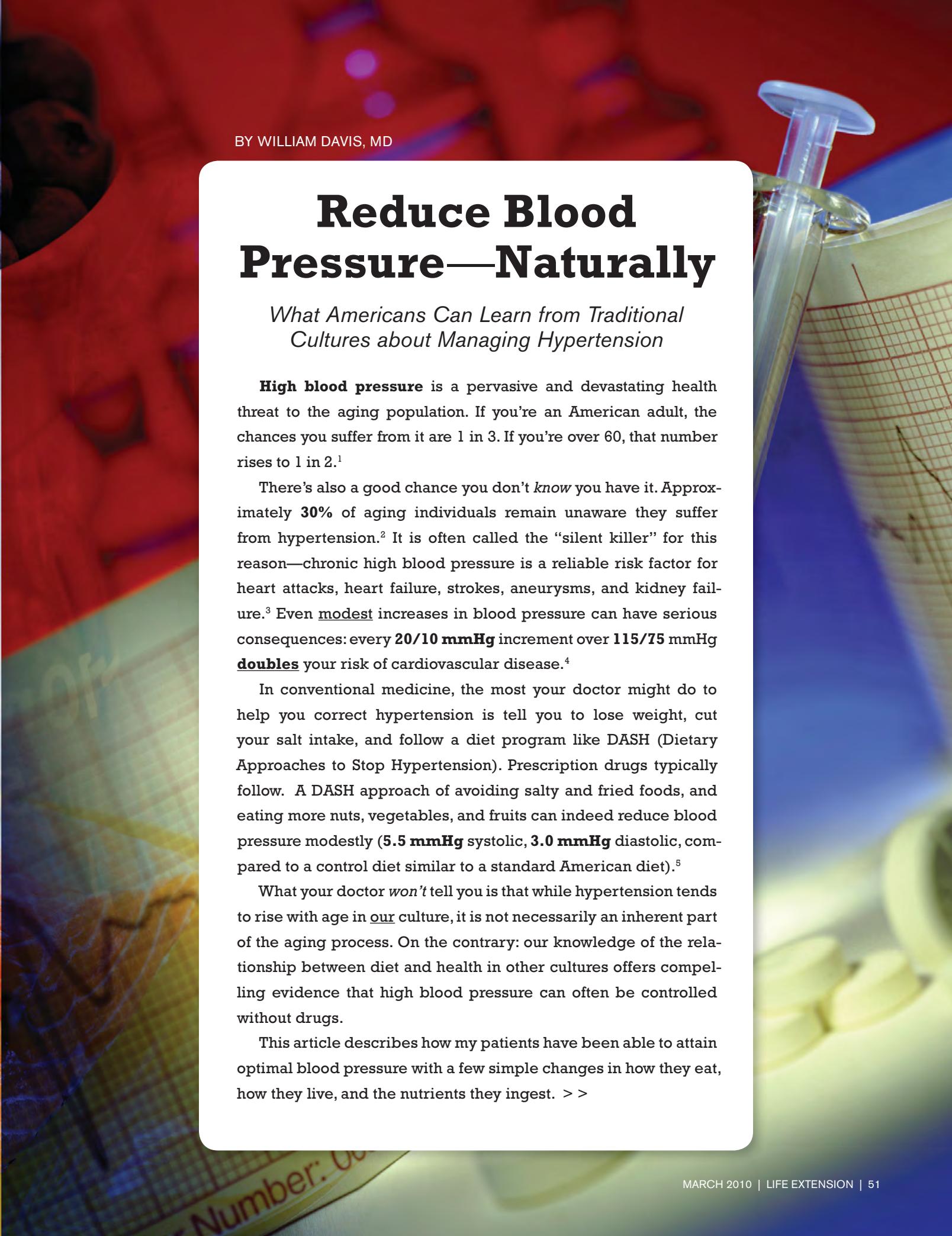
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To order Pomegranate Extract with CocoaGold™, call 1-800-544-4440 or visit www.lifeextension.com





BY WILLIAM DAVIS, MD

Reduce Blood Pressure—Naturally

What Americans Can Learn from Traditional Cultures about Managing Hypertension

High blood pressure is a pervasive and devastating health threat to the aging population. If you're an American adult, the chances you suffer from it are 1 in 3. If you're over 60, that number rises to 1 in 2.¹

There's also a good chance you don't know you have it. Approximately **30%** of aging individuals remain unaware they suffer from hypertension.² It is often called the "silent killer" for this reason—chronic high blood pressure is a reliable risk factor for heart attacks, heart failure, strokes, aneurysms, and kidney failure.³ Even modest increases in blood pressure can have serious consequences: every **20/10 mmHg** increment over **115/75 mmHg** **doubles** your risk of cardiovascular disease.⁴

In conventional medicine, the most your doctor might do to help you correct hypertension is tell you to lose weight, cut your salt intake, and follow a diet program like DASH (Dietary Approaches to Stop Hypertension). Prescription drugs typically follow. A DASH approach of avoiding salty and fried foods, and eating more nuts, vegetables, and fruits can indeed reduce blood pressure modestly (**5.5 mmHg** systolic, **3.0 mmHg** diastolic, compared to a control diet similar to a standard American diet).⁵

What your doctor *won't* tell you is that while hypertension tends to rise with age in our culture, it is not necessarily an inherent part of the aging process. On the contrary: our knowledge of the relationship between diet and health in other cultures offers compelling evidence that high blood pressure can often be controlled without drugs.

This article describes how my patients have been able to attain optimal blood pressure with a few simple changes in how they eat, how they live, and the nutrients they ingest. > >



An “Inevitable” Health Problem?

Why are traditional cultures spared from high blood pressure while modern Americans suffer from epidemic high blood pressure—almost inevitably?

The current guidelines for hypertension management are detailed in the Seventh Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC 7), last updated in 2003. In JNC 7, **normal blood pressure** is defined as **less than 120/80 mmHg**; pre-hypertension is classified as **between 120-139/80-89 mmHg**. High blood pressure is classified as stage I (**140-159/90-99 mmHg**) or stage II (greater than **160/100 mmHg**).⁴

Yet the Yanomamo and Xingu Indians of Brazil, rural Kenyans and natives of Papua, New Guinea, have blood pressures that typically **average 103/63 mmHg!**¹ Even with aging, members of these cultures fail to develop the “expected” age-related increase in blood pressure that we are so accustomed to seeing.

Early studies exploring the reasons why traditional peoples have lower blood pressure focused principally on sodium/salt intake. But factors beyond salt have emerged, including higher potassium intake, less alcohol intake, and especially lower body weight.^{2,3} We can also safely extrapolate that people like the Yanomamo

don’t eat chips, crackers, fruit drinks, or the thousands of other processed foods that we consume in excess. Are there lessons to be learned from traditional cultures that might help us avoid the otherwise inevitable high blood pressure that we experience in the modern world?

Four Nutritional Approaches

Nutrition plays a critical role in determining blood pressure.

In traditional societies, the inclusion of abundant plant-sourced foods and wild game, along with exclusion of processed foods and food additives like *high-fructose corn syrup*, confer extraordinary lifelong protection from hypertension. This diet is a far cry from the misguided low-fat notions that are partly responsible for the American obesity and diabetes crisis. While the low-fat theme dominated American nutritional advice in the past, focusing only on restricting the quantity of fat intake may be detrimental. Rather, it may be more important to focus on the *types* of fats in the diet. For instance, it is crucial to *replace* saturated and hydrogenated fats with unsaturated and omega-3 fats in order to help reduce heart disease risk.¹⁵

Over the past 50 years, the American food industry has created a destructive and extraordinarily far-reaching array of industrial foods. The average American diet of processed carbohydrates like breakfast cereals and breads (all low-fat!), trans/hydrogenated fatty acids, high-fructose corn syrup, and overly-sugared foods is a guaranteed path towards high blood pressure, not to mention cholesterol distortions, increased inflammatory responses, and obesity.^{16,17}

While the DASH diet achieves a reduction of several mmHg in blood pressure,⁵ you can take the diet several steps further for greater benefit. One potent means of reducing blood pressure is to *mimic* the lifestyle of traditional cultures and eliminate modern industrial foods that contribute to hypertension, while increasing the foods that reduce blood pressure. Since hunting wild game or foraging for cassava root and wild berries is not an option for most people, the goal is to simulate a modern version of a “traditional” lifestyle.

Such important dietary changes include:

- **Elimination of wheat and cornstarch**

This strategy, as unexpected as it might be to many people, is probably the most potent strategy we have employed in our heart disease prevention and reversal clinic. It is not uncommon in our clinic to see **blood pressure reductions of 20-40 mmHg**, along with reduction or elimination of the “need” for blood pressure-reducing medication, not to mention dramatic weight loss, correction of cholesterol distortions (reduction in triglycerides, increased HDL, decreased LDL), and reduced inflammation.

Wheat is a particular problem in the American diet. A large number of Americans suffer from undiagnosed allergy or sensitivity to wheat. An additional, smaller number suffer from a devastating condition called celiac disease. People with celiac disease experience severe intestinal inflammation and destruction when exposed to **gluten** (a protein found in wheat and other grains such as rye and barley). Celiac survivors (“survivors” because celiac disease is a potentially fatal illness) who recover from this devastating intestinal illness by eliminating gluten tend to achieve a healthier body mass index than the wheat-consuming public. One study showed that patients with celiac disease who avoid gluten were more slender, since they take in 13-14% fewer calories than the general public (consistent with removal of the appetite-stimulating effect of wheat products).¹⁸ Another study found that wheat avoidance helped patients with celiac disease achieve a healthier weight—those who were underweight gained weight, while those who were overweight lost weight.¹⁹ Celiac patients who avoid gluten also benefit from higher HDL and ApoA1 levels.²⁰

Reduce Blood Pressure

- It is estimated that 1 in 3 American adults and *half* of those over 60 years old suffer from hypertension. It is a reliable risk factor for heart attacks, heart failure, strokes, aneurysms, and kidney failure.
- While traditional cultures rarely suffer the health dangers of high blood pressure (hypertension), the condition has become increasingly widespread in modern society.
- Every **20/10 mmHg** increase in blood pressure over the level **115/75 mmHg** *doubles* cardiovascular risk.
- Doctors typically first recommend implementing the low-sodium DASH diet to combat hypertension.
- First-line prescription treatment for hypertension consists of thiazide diuretics, which can adversely alter lipid profiles and increase the risk of metabolic syndrome.
- Clinical experience suggests that dietary modifications, including eliminating dietary wheat and unhealthy oils, may promote healthy blood pressure.
- Certain foods and nutrients may help promote healthy blood pressure. These include nuts, vitamin D, magnesium, coenzyme Q10, French maritime pine bark extract, anthocyanins, magnesium, omega-3 fats, resveratrol, acetyl-L-carnitine, and melatonin.



Thiazide Diuretics: A First-line Mistake

Thiazide diuretics, such as **hydrochlorothiazide** and **chlorthalidone**, are first-line drugs usually prescribed to treat hypertension, as advised by the JNC 7.⁴ They are inexpensive, have proven efficacy for reducing blood pressure, and physicians are well-acquainted with their use. But are they safe?

First of all, we all recognize the health benefits of good hydration, including restoring energy and cognitive performance, and prevention of blood clotting and kidney stones.⁶⁻⁸

Then why are *dehydrating* agents like thiazide diuretics prescribed? Diuretics work by reducing the volume of fluid in the body and in blood vessels, thus lowering pressure. (Ask anyone who has taken a diuretic: the loss of fluid (i.e., as urine) can be quite astounding.) But you can't have both adequate hydration *and* dehydration—you've got to pick one or the other.

Thiazide diuretics have a number of undesirable effects, including:

- Reduction of protective high-density lipoprotein (HDL)⁹
- Increased triglycerides¹⁰
- Increased total cholesterol⁹
- Increased insulin resistance and diabetes risk¹¹
- Increased uric acid, which may increase the risk of a gout attack¹²

These are not unexpected side effects that occur in a few; they are *expected effects that develop in a substantial proportion.*¹³

In one large study, **7.7%** of those taking thiazide-type diuretics developed diabetes over the course of 4 years, compared with only **4.2-4.7%** of patients taking other types of prescription diuretics.¹⁴

Although thiazides are widely prescribed as the first choice for hypertension, this class of drugs is fraught with a range of significant undesirable side effects.



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• **Elimination of wheat and cornstarch**

This strategy, as unexpected as it might be to many people, is probably the most potent strategy we have employed in our heart disease prevention and reversal clinic. It is not uncommon in our clinic to see **blood pressure reductions of 20-40 mmHg**, along with reduction or elimination of the “need” for blood pressure-reducing medication, not to mention dramatic weight loss, correction of cholesterol distortions (reduction in triglycerides, increased HDL, decreased LDL), and reduced inflammation.

Wheat is a particular problem in the American diet. A large number of Americans suffer from undiagnosed allergy or sensitivity to wheat. An additional, smaller number suffer from a devastating condition called celiac disease. People with celiac disease experience severe intestinal inflammation and destruction when exposed to **gluten** (a protein found in wheat and other grains such as rye and barley). Celiac survivors (“survivors” because celiac disease is a potentially fatal illness) who recover from this devastating intestinal illness by eliminating gluten tend to achieve a healthier body mass index than the wheat-consuming public. One study showed that patients with celiac disease who avoid gluten were more slender, since they take in 13-14% fewer calories than the general public (consistent with removal of the appetite-stimulating effect of wheat products).¹⁸ Another study found that wheat avoidance helped patients with celiac disease achieve a healthier weight—those who were underweight gained weight, while those who were overweight lost weight.¹⁹ Celiac patients who avoid gluten also benefit



Reverting back to basic foods, especially reducing or eliminating wheat grains, cornstarch, and sugars, can reduce blood pressure substantially.

Chief among foods that help reduce blood pressure are: raw nuts (almonds, walnuts, pecans, Brazil nuts, hazelnuts, pistachios; raw is crucial, since most roasted nuts have been roasted in blood pressure-increasing hydrogenated oils) and seeds (pumpkin, sunflower); vegetables; berries (blueberries, strawberries, cranberries, cherries, blackberries, elderberries); and healthy oils (olive, flaxseed, avocado, coconut).²⁹

Nine Supplements for Optimal Blood Pressure Management

Beyond changing your diet to minimize exposure to foods that increase blood pressure and emphasizing foods that reduce blood pressure, a number of nutritional supplements have been confidently demonstrated to reduce blood pressure. Several supplements, including vitamin D, magnesium, omega-3 fatty acids from fish oil, and anthocyanins, correct inadequate intakes of these nutrients that commonly occur with modern lifestyles. Restoring them allows us to mimic the nutrient intakes of traditional cultures. Other supplements exert unique blood pressure-reducing effects independent of correcting nutritional deficiencies.

Vitamin D

Blood pressure reduction is one of the many extraordinary health benefits of vitamin D.

People deficient in vitamin D are more likely to have high blood pressure.^{48,49} Vitamin D supplementation, alone or with calcium, can reduce blood pressure in people with hypertension.^{50,51} Vitamin D likely exerts this effect in part by suppressing the expression of the blood pressure hormone renin, similar to the effect of prescription angiotensin-converting enzyme (ACE) inhibitors.⁵²

In our clinic, we dose vitamin D by checking blood levels of **25-hydroxyvitamin D** and maintaining this measure between **60-70 ng/mL**; the average dose requirement to do so is **6,000 units per day**—far more than the now woefully outdated Recommended Adequate Intake for adults over age 50 of 400 IU/day. Because individual requirements vary widely, however, it is advisable to have blood levels checked on occasion to ensure the desired level has been achieved, neither too high nor too low.

Coenzyme Q10

Among antioxidants, coenzyme Q10 (CoQ10) stands out for its ability to promote healthy blood pressure levels.

Pooled data from 12 studies (362 participants) revealed an impressive drop of **16.6 mg Hg in systolic pressure**, and an **8.2 mm drop in diastolic pressure** with CoQ10 doses ranging from **30-360 mg** per day.⁵³

Recent reports suggest that reducing blood pressure may not be enough to eliminate risk for cardiovascular complications like death and heart attack. Reduction of abnormal heart muscle thickening, or “hypertrophy” (measured by ultrasound), may also be a necessary component of treatment.⁵⁴ CoQ10 has been shown to reduce abnormal hypertrophy resulting from high blood pressure.^{55,56} All of this is accomplished with virtually no side effects, given the fact that CoQ10 occurs naturally in the human body.

French Maritime Bark Extract

Numerous studies point to the efficacy of a novel antioxidant compound of proanthocyanidins and bioflavonoids isolated from bark of the French maritime pine that grows along the southern coast of France.

A University of Arizona study documented **50%** reduced need for blood pressure medication in diabetic participants taking **125 mg** of this compound per day.⁵⁷ Interestingly, there was a **23.7 mg/dL** drop in blood sugar and **0.8% reduction in hemoglobin A1c**.

An Everyday Dietary Danger

What food can cause devastating *inflammatory intestinal destruction* that, if unrecognized, can lead to disability and death?¹⁸

Increase blood sugar *higher and faster than table sugar?*³⁰

Trigger *autoimmune inflammation* in the thyroid?³¹

Create intestinal bloating, cramps, and alternating diarrhea and constipation, often labeled *irritable bowel syndrome?*³²

Weaken the muscle controlling food exit from the esophagus to the stomach, resulting in *reflux esophagitis* (heartburn)?³³

Worsen *schizophrenia* in susceptible individuals?³⁴

Contribute to *behavioral outbursts* in children with autism?^{35,36}

Increase the risk of or worsen various inflammatory diseases such as *rheumatoid arthritis, ulcerative colitis, dermatitis herpetiformis, systemic lupus, pancreatitis*, and increase measures of inflammation?³⁷⁻⁴²

Cause unexplained *anemia, mood swings, fatigue, fibromyalgia, eczema, and osteoporosis?*^{38,43-45}

That food is *wheat*. Yes, the ubiquitous grain we are urged to eat more and more by the **USDA**, the **American Heart Association**, the **American Dietetic Association**, and the **American Diabetes Association**. Wheat is among the most destructive ingredients in the modern diet, worse than sugar, worse than high-fructose corn syrup, worse than any fat. What other common food can result in such an extensive list of diseases, even *death?*

Few foods occupy the exalted position that wheat has gained, earning over 20,000 research publications in the medical literature over the past 30 years, many studies detailing the destructive and sometimes fatal

nature of this common dietary product. Celiac disease alone affects more than 2 million Americans.⁴⁶ The medical literature is filled with case reports of deaths from this disease,⁴⁷ often after years of struggle with incapacitating intestinal dysfunction and encephalopathy (brain inflammation).

What happens when you *remove wheat* from the diet? Experience at our clinic has shown that the majority of people quickly shed **20-30 lbs** in the first few weeks, selectively lost from the abdomen (what I call “wheat belly”); blood sugar plummets; triglycerides drop up to several hundred milligrams, HDL increases, LDL drops (yes, *wheat elimination is a means of achieving marked reduction in LDL*, especially the small, heart disease-causing variety); and C-reactive protein plummets. In addition, intestinal complaints like pain, gas, and bloating improve or disappear; gastroesophageal reflux often disappears; rashes improve; inflammatory conditions like rheumatoid arthritis improve; diabetes (adult or type 2) is more easily controlled; and behavioral disorders and mood improve.

In people who have celiac disease, the meticulous avoidance of wheat gluten and gluten from other sources, including rye, spelt, and barley, will be necessary. But there are millions of Americans who are suffering wheat-intolerance in some form, from skin rashes to arthritis to depression, who are wheat-sensitive but remain unaware.

Beware of the food industry’s efforts to capitalize on wheat intolerance with products known as “gluten free.” These are generally foods that don’t trigger the inflammatory response of wheat, but still cause high blood sugar, weight gain, and other abnormalities.

(a measure of long-term blood sugar control). Another study demonstrated reduced need for calcium blocker medication in participants given 100 mg per day.⁵⁸

French maritime bark extract exerts its antihypertensive effects by blocking the angiotensin-converting enzyme (ACE)—similar to the mechanism of the prescription ACE inhibitors **enalapril** and **lisinopril**—enhancing endothelial (vessel lining) responsiveness, and blocking the effects of adrenaline (epinephrine).⁵⁹

Anthocyanins

Anthocyanins are a class of plant flavonoids that confer the red, purple, and blue color to cranberries, blueberries, eggplant, grapes, red wine, pomegranate, and other similarly colored fruits and vegetables. Anthocyanins are proving to be powerful standouts for health effects among the many thousands of flavonoids and polyphenols identified to date.

A Finnish study of 72 middle-aged subjects examined the effects of consuming two servings of berries daily (alternating schedule of **100 g whole bilberries**

and a **50 g** crushed lingonberry nectar; or black currant or strawberry purée and cold-pressed chokeberry and raspberry juice) compared to a non-berry containing calorie-matched control. Anthocyanins represented the dominant flavonoid at **275 mg** of the total polyphenols of **837 mg** per day. The berry group experienced a reduction in systolic blood pressure of **7.3 mmHg**, along with **5.2%** increase in HDL.⁶⁰ A study of **50 mL** (almost 2 oz) of anthocyanin-rich pomegranate juice reduced blood pressure by about **12%**, in addition to reducing carotid intima-media thickness.⁶¹

Like French maritime bark extract and vitamin D, anthocyanins are natural inhibitors of the angiotensin-converting enzyme that increases blood pressure.⁶² The production of the natural and powerful artery-relaxing agent, *nitric oxide*, is also increased by anthocyanins.⁶³

Some of the richest sources of anthocyanins are elderberries, chokeberries, and bilberries, which are difficult to find in the US, but may be obtained as nutritional supplements and extracts.

Magnesium

In addition to magnesium's capacity to help manage asthma attacks, migraine headaches, eclampsia and pre-eclampsia of pregnancy, heart rhythm disorders, and preserve kidney function,^{64,65} magnesium supplementation has been conclusively shown to reduce blood pressure.⁶⁶ Magnesium deficiency contributes an even larger blood pressure-increasing effect in the setting of a modern American diet deficient in magnesium and rich in fructose—a situation that increases inflammation and the potential for metabolic syndrome.⁶⁷



In one recent study, magnesium supplementation reduced systolic blood pressure by **5.6 mmHg** and diastolic blood pressure by **2.8 mmHg**.⁶⁸ People with heart disease may derive even greater effects. A study of 50 participants with advanced heart disease demonstrated a **9.0 mmHg** drop in systolic pressure with **500 mg** elemental magnesium supplementation, despite serum magnesium levels in the normal range.⁶⁹

The blood pressure-reducing effects of magnesium supplementation may be especially marked in those with low serum magnesium levels. A study of supplementation in diabetic participants starting with low serum magnesium levels demonstrated an astounding **20.4 mmHg** drop in systolic blood pressure and an **8.7 mmHg** drop in diastolic pressure with **450 mg** of elemental magnesium daily.⁷⁰

Omega-3 Fatty Acids

In addition to the triglyceride- and cardiovascular event-reducing effects of omega-3 fatty acids from fish oil, these fascinating oils also modestly reduce blood pressure. Daily intake of **1,000-3,000 mg** of the omega-3 fatty acids EPA and DHA reduces systolic blood pressure by about **2.1 mmHg** and diastolic pressure by **about 1.6 mmHg**.⁷¹ These blood pressure-reducing effects are accomplished via blocking the angiotensin system, promoting arterial relaxation (normalization of endothelial dysfunction), reduced production of inflammatory mediators, and reduced production of artery constricting factors.⁷²



Resveratrol

Red wine in modest quantities has been demonstrated to reduce risk for cardiovascular disease.⁷³ Much attention has focused on the polyphenol **resveratrol**, originating from red wine and grapes as a principal source of benefits, including potential life-extending effects due to activation of the sirtuin genes.⁷⁴

Resveratrol has been shown to inhibit the angiotensin-converting enzyme as a means to modestly reduce blood pressure,⁷⁵ and also restores production of the natural artery-dilating agent, *nitric oxide*.^{76,77}

Acetyl-L-carnitine

In a preliminary study, this amino acid reduced systolic blood pressure **9 mmHg** in subjects taking **1,000 mg** twice per day.⁷⁸ In addition, acetyl-L-carnitine improved insulin responses and reduced blood sugar.

Melatonin

Because nocturnal hypertension has been associated with increased risk for cardiovascular events,⁷⁹ the effect of melatonin on nighttime hypertension has been studied.

In addition to its sleep-enhancing effects, melatonin taken at or before bedtime reduces blood pressure during sleep. One study examined the effects of nightly dosing of **2.5 mg** in 16 men; melatonin reduced systolic and diastolic blood pressure during sleep by **6** and **4 mmHg**, respectively.⁸⁰ Another study of 38 men demonstrated that **2 mg** of a controlled-release melatonin preparation reduced systolic pressure by **6 mmHg** and diastolic pressure by **3 mmHg** during sleep.⁸¹

Summary

The virtual absence of hypertension in traditional cultures suggests that high blood pressure is, for most of us, a situation we *create* with modern diet and lifestyle. Reverting back to basic foods, especially reducing or *eliminating* wheat grains, cornstarch, and sugars, can reduce blood pressure substantially. Select nutrients, many of which restore nutrients that were more readily obtained by traditional eating habits but are lacking in the modern day diet, can also reduce blood pressure. While not everyone starting such a program during adulthood can hope to entirely avoid hypertension, these steps might help minimize the potential of developing this dangerous condition. ●

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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EDITOR'S NOTE

In this article, Dr. Davis has provided us with an abundance of natural methods to lower blood pressure.

As Dr. Davis noted in the introduction, even modest blood pressure readings above **115/75** sharply increase cardiovascular disease risk. Yet conventional doctors are allowing their aging patient's blood pressure to reach dangerous levels of **140/90** before initiating anti-hypertensive therapy.

In fact, the home page of a pharmaceutical company's web site (www.diovan.com) defines high blood pressure as **140/90** or higher.

This drug company is acting against its own economic interest by limiting the number of people who are candidates for its anti-hypertensive drug, while disseminating erroneous lethal information to the public.

We urge most *Life Extension* members to maintain their blood pressure at 115/75 (or lower) using natural methods first. If blood pressure remains stubbornly high, we suggest a safe and effective class of anti-hypertensive drugs be used called **angiotensin II receptor antagonists**. One of these drugs we have recommended for over a decade is called **Cozaar®** and it should be taken twice a day to maintain 24-hour control over blood pressure. Another drug in this class called **Benicar®** claims 24-hour blood pressure control with once a day dosing.

You should not trust any medication to provide 24-hour blood pressure control. If you are prescribed Benicar® or any other anti-hypertensive, use an **at-home** blood pressure monitoring device to make sure the drug is providing all-day control of blood pressure at the optimal range of **115/75** or lower. A major error in using anti-hypertensive drugs is that they wear off later in the day allowing blood pressure to spike to dangerously high levels.

You can obtain reliable at-home blood pressure monitors at your local pharmacy, or you can order one by phone by calling **1-800-544-4440**.

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Vitamin C Tabs *with Dihydroquercetin*

Since it was first isolated nearly 80 years ago, **vitamin C** has been deemed essential for life and for maintaining optimal health and well-being. Its potent antioxidant properties and critical role in facilitating essential biochemical reactions throughout the body have made **vitamin C** the world's most widely consumed nutritional supplement.

Because humans do not manufacture **vitamin C** internally, it must be obtained through dietary sources or supplements. Few people realize, however, that **vitamin C** is a *water-soluble* nutrient that is quickly oxidized and excreted by the body,¹ which limits its efficacy. Until now, those seeking to capture **vitamin C**'s optimal health benefits have had no choice but to consume it several times throughout the day.

Fortunately, a *flavonoid* antioxidant known as **dihydroquercetin** functions as a **vitamin C** "supercharger." Studies demonstrate that **dihydroquercetin** acts to inhibit the oxidation of **vitamin C**, thereby helping to maintain its concentration and to recycle **vitamin C** throughout the body.^{2,3} This synergistic relationship between **dihydroquercetin** and **vitamin C** greatly enhances the efficacy of both molecules in the body's organs and tissues.

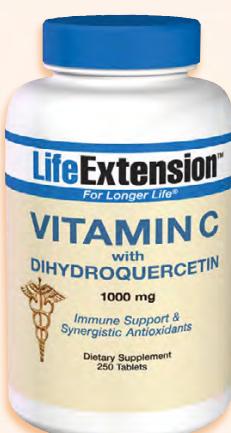
Vitamin C with Dihydroquercetin was formulated for those seeking to obtain optimal efficacy and antioxidant protection from their vitamin C supplement. The suggested daily dose of one tablet of this formula supplies **1000 mg of vitamin C** (as ascorbic acid), along with **10 mg of**

Dihydroquercetin-3-rhamnoside, a highly bioavailable form of dihydroquercetin derived from grape leaf extract.

A bottle containing 250 tablets of **Vitamin C with Dihydroquercetin** retails for \$25.50. If a member buys four bottles, the price is reduced to just **\$17.44 per bottle**.

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Lubricating Aging EYES

Maintaining eye health is a major concern as we age.

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

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

Brite Eyes contains two proven **lubricants** (*hydroxy-methylcellulose and glycerin*) that are FDA-approved for ophthalmic use. Unlike conventional eye drop formulas, these **lubricants** are preserved with potent **antioxidants** and **anti-glycating** agents.

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

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

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



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To order **Brite Eyes III** today, call **1-800-544-4440**
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Beyond Conventional Antioxidants

For decades, health-conscious consumers relied on conventional antioxidants (such as vitamins E and C) to help suppress damaging free radicals.

While thousands of published studies support the benefits of conventional antioxidants, scientists have discovered that extracts from brightly colored fruits and vegetables possess far greater antioxidant capacity.¹⁻³

In fact, human epidemiological studies show that those who regularly consume these potent plant-based *polyphenols* and *anthocyanins* remain far healthier in their advanced years.

So, if you're not eating the recommended five servings of fruits and vegetables a day, in particular the dark-skinned varieties, you could be lacking optimal antioxidant protection against toxic free radicals.

High-ORAC Score Fruits and Vegetables

To measure the antioxidant strengths of food and other substances, scientists use what is called the ORAC score. A higher score means the food is better at protecting the body's cells from free radical-induced damage. So, the higher a food's ORAC score, as in dark-skinned fruits and vegetables, the better it is for you. However, problems with availability, the perishable nature, and the cost of obtaining a wide variety of high-ORAC fruits and vegetables on a daily basis mean they are often difficult to get in the typical American diet.

Superior Antioxidant Protection

To overcome these issues, Life Extension has developed new **Berry Complete** formula to provide a concentrated blend of fruit and vegetable extracts that have some of the highest ORAC scores around. Each capsule is packed with scientifically proven polyphenols and anthocyanins from seasonal and perishable fruits and legumes that are typically the highest in ORAC values.

Just one capsule provides the antioxidant capacity of **more than 50%** of the daily recommended five a day intake of fruits and vegetables.

Berry Complete therefore provides an affordable way of getting powerful antioxidant protection from a variety of colorful fruits and vegetables into your diet to help fight free radical damage and promote healthy aging. A bottle containing 30 vegetarian capsules of **Berry Complete** retails for \$21. If a member buys four bottles, the cost is only **\$14 per bottle**.

The New Berry Complete

Each capsule provides 400 mg of a high ORAC antioxidant blend of fruit, vegetable, and legume standardized extracts and concentrated powders from:

- Blackcurrant
- Blackberry
- Elderberry
- Wild blueberry
- Wild bilberry
- Sweet cherry
- Tart cherry
- Acai
- Aronia
- Raspberry and raspberry seed
- Grape and grape seed
- Cranberry
- Prune
- Strawberry
- Pomegranate
- Black soybean hull
- Blue corn

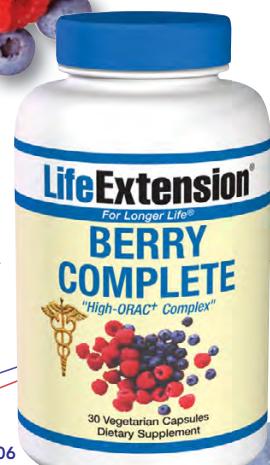


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ITEM# 01206





Optimal Arthritis Control

Multi-Targeted Compounds Combat Inflammation

BY JULIUS GOEPP, MD

According to the most recent scientific research, aging individuals afflicted with **rheumatoid arthritis** are at **60% greater risk** of dying from **heart disease** than the general population.¹ The vascular damage seen in rheumatoid individuals appears to be an accelerated form of atherosclerosis.²

Similar analysis shows that over time, rheumatoid arthritis sufferers also sustain damage to the **eyes, lungs, and skin.**³⁻⁶

The common factor linking rheumatoid arthritis to these potentially deadly conditions is **system-wide, chronic inflammation** in the body. The same systemic inflammatory events, especially those involving the potent cytokine known as TNF-alpha, contribute to atherosclerosis even in people who don't have rheumatoid arthritis⁷—and that's why we all need to pay special attention to limiting inflammatory changes throughout our lifetime.

Until recently, mainstream medicine's focus on highly profitable single-target drugs (like Enbrel®) has left the 1.3 million rheumatoid arthritis sufferers in this country with few attractive options. While effective at controlling symptoms,

these drugs are expensive and produce potentially life-threatening side effects associated with chronic suppression of immunity, such as serious infections and certain cancers.⁸⁻¹⁰

Fortunately, a novel set of multi-targeted natural agents has been identified that can disrupt the **inflammatory cascade** involved in rheumatoid arthritis at many stages. These agents have also been shown to reduce joint pain, stiffness, and deterioration of cartilage.

In this article, you will learn about the latest research on **curcuminoids** and **andrographolides**—natural compounds shown to specifically target the painful conditions associated with rheumatoid arthritis and the underlying genetic and biochemical factors that cause rheumatoid inflammation.

You will also discover a high-potency form of **curcumin** which early evidence shows may be as effective in alleviating the symptoms of rheumatoid arthritis as the non-steroidal anti-inflammatory (NSAID) drug diclofenac! Animal studies already demonstrate that curcumin relieves pain comparably to diclofenac, so this is an exciting and evolving field of research.¹¹ >>

Rheumatoid Arthritis— Inflammation Run Amok

While its causes are not fully understood, researchers have long known that rheumatoid arthritis (RA) is an **autoimmune** disorder.

An optimally functioning immune system remains on constant alert, patrolling for invading microbes and emerging cancer cells. When launched into action, various *immunomodulating* agents—including the cell-signaling proteins known as *cytokines*—provoke an inflammatory response in the body. In healthy individuals, the immune system keeps this inflammatory response under **control** to prevent injury to the body itself.¹²

For the unfortunate individuals stricken with rheumatoid arthritis, this balance is disrupted—the body mistakes some of its own tissue as “foreign,” resulting in a *chronic* inflammatory response. The immune system *attacks* the delicate **synovial membranes** that line the joints, producing pain, swelling, bone loss, and overgrowth of the membranes themselves. Eventually joints stiffen, limiting range of motion, accompanied by progressively worsening pain and a severe decline in quality of life.¹³

RA is one of a growing handful of diseases in which experts have recognized the central role of an **inflammatory cytokine** called **tumor necrosis factor-alpha (TNF-alpha)**—the “master regulator” of inflammation in many systems of the body. These conditions—which include **psoriasis** and **inflammatory bowel disease**—

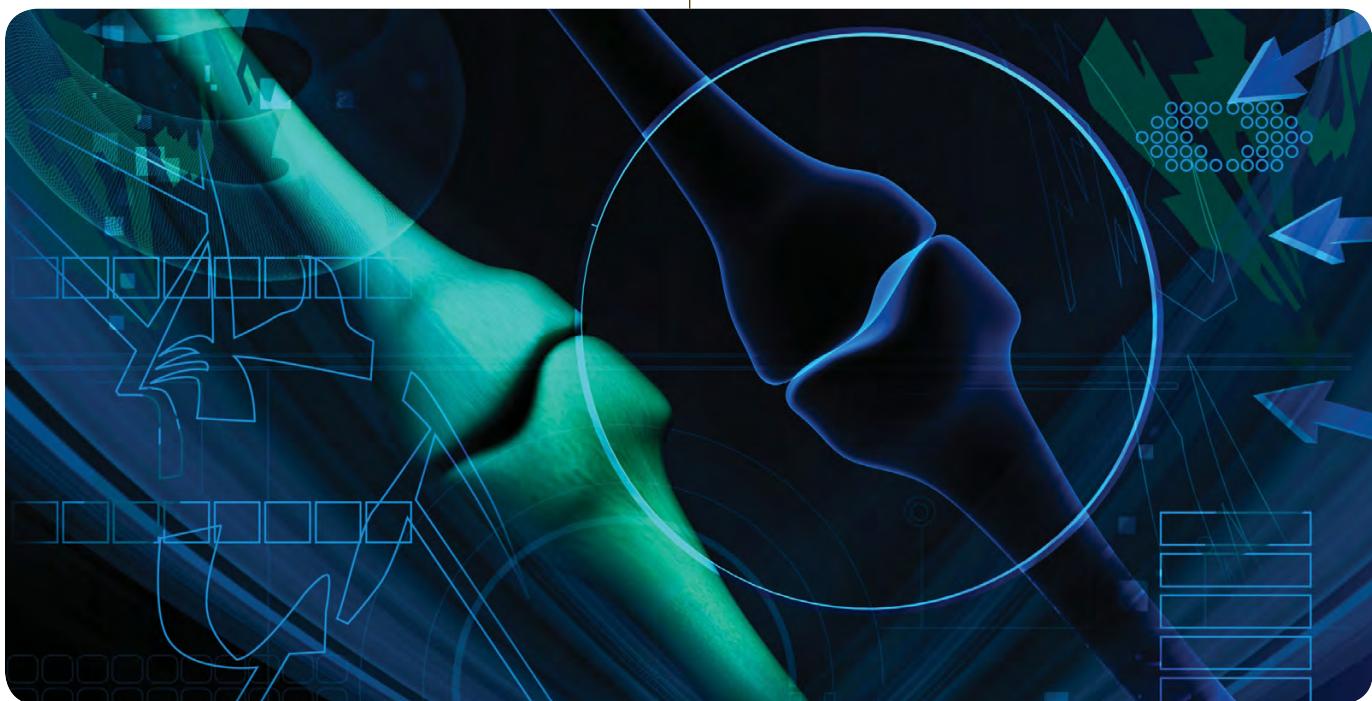
are collectively known as “**TNF Related Chronic Inflammatory Diseases**,” or TRECID.¹⁴

Mainstream medical research remains largely focused on various drugs that *block* TNF-alpha as a way to try to stop the damage involved in TRECID diseases.¹⁵ Though TNF-blockers like *golimumab*, *infliximab*, and *adalimumab* can be effective, there are some individuals for whom these interventions provide little or no relief.¹⁶⁻¹⁸ TNF-blockers can also be extremely expensive, requiring painful periodic injections, with an array of side effects, some of which may paradoxically *exacerbate* autoimmune disease.¹⁸⁻²⁰

Another main class of pharmaceutical interventions for RA, known as disease-modifying anti-rheumatic drugs (DMARDs), include methotrexate, cyclosporine, and cytoxan.²¹ These drugs are often less costly, but generally no better in terms of efficacy and side effect profile.^{22,23}

The truth is that tolerable, safe treatment of RA continues to *elude* pharmaceutical solutions—in large part because they are **single-target** therapies focused on a limited number (usually just one) of the underlying mechanisms behind RA. The powerful disruption of the immune system by those drugs often produces a comprehensive state of immune deficiency that opens the patient to potentially disastrous infections—the FDA has recently issued “Black Box” warnings for some of the biological agents in this class.¹⁰

A novel set of low-cost, natural compounds have emerged that specifically *attack* the inflammation associated with rheumatoid arthritis at multiple



points in the inflammatory process. Together they provide the potential for ***multi-targeted relief***, both “upstream” within the inflammatory cascade—at *earlier* stages than TNF-blocking drugs—and “downstream,” at later stages than traditional anti-rheumatic drugs (DMARDs).

Andrographis: A Multi-Modal Inflammation Fighter

Over the past 25 years, extracts of the Asian herb ***Andrographis paniculata*** have aroused considerable scientific interest owing to their apparent power to favorably modify immune system function.²⁴⁻²⁶ Its bioactive components, called ***andrographolides***,²⁷ are well *absorbed* after oral dosing²⁸ and have been extensively tested as anti-inflammatory agents.²⁹

Unlike the single-targeted action of TNF-blockers and anti-rheumatic drugs, andrographolides stimulate beneficial activity at multiple points in the inflammatory process, providing mutually reinforcing effects.²⁹

Andrographolides *inhibit* activity of the pro-inflammatory compound known as inducible *nitric oxide synthase* (iNOS). This helps exert a powerful **anti-inflammatory** effect.³⁰ Readers who are familiar with the vascular benefits of eNOS (endothelial NOS) should note that, unlike eNOS, iNOS is pro-inflammatory and often involved in disease states, where it is desirable to inhibit its actions.

Andrographolides suppress production of the **pro-inflammatory cytokines TNF-alpha and prostaglandin E2 (PGE-2)**, preventing their gene expression at multiple levels.^{31,32} By doing so they downregulate the chemical signaling pathways that cells use to “tell” each other to initiate the inflammatory response that plays a key role in rheumatoid arthritis.³³

Scientific analysis has further revealed that andrographolides operate “upstream” within the process of the inflammatory cascade by blocking the effects of the **pro-inflammatory transcription factor nuclear factor-kappaB (NF-kB)**.³⁴

NF-kB is found in almost *all* human cells. It plays a key role in cellular responses to stress, cytokines, free radicals, oxidized low-density lipoprotein (LDL), and bacterial or viral pathogens. Accordingly, its central role as a first-responder to oxidative damage, infection, and toxin-induced stress links it to **inflammation, cancer, and chronic disease**.³⁵ NF-kB tightly regulates virtually *all* factors downstream in the inflammatory cascade, including cytokines known as *interleukins*, hormones known as *prostaglandins*, and *TNF-alpha*.

By blocking NF-kB, andrographolides *inhibit* production of a host of inflammatory mediators in one



What You Need to Know

Optimal Arthritis Control

- Rheumatoid arthritis is an autoimmune disorder characterized by chronic *inflammation*.
- Safe, multi-targeted natural agents have been identified that disrupt the inflammatory cascade involved in rheumatoid arthritis at multiple stages—and reduce joint swelling, pain, and stiffness.
- Andrographolides from the Asian herb *Andrographis paniculata* and curcuminoids from turmeric have multi-targeted, complementary actions that powerfully counter the inflammatory response.
- They work by suppressing pro-inflammatory cytokines, modulating the immune response, favorably modulating gene expression, and neutralizing free radicals.
- A clinical study published in 2009 showed that a select andrographolide formulation reduced joint pain and swelling in patients with rheumatoid arthritis.
- In 2009, a high-potency formulation of curcumin outperformed the non-steroidal anti-inflammatory drug (NSAID) diclofenac in an unpublished human clinical trial.

simple step.³⁶ Just as critically, they permit *normal* activity of vital immune surveillance cells as they simultaneously suppress over-active inflammatory cells, as demonstrated in animal studies.³⁷

This is a critical feature that distinguishes andrographolides from most anti-rheumatic drugs (DMARDs). While andrographolides suppress inflammatory immune factors,³⁶ DMARDs can suppress immune function in general, resulting in an **increased risk of infection**.³⁸

Andrographolides also act as powerful **antioxidants**, limiting the number of free radicals thrown off by inflammatory cells and reducing overall inflammation and pain in animal studies.³⁹⁻⁴³

Clinical Breakthroughs in Natural Arthritis Relief

In 2005, a group of researchers led by Dr. Raphael A. Burgos at the Universidad Austral in Valdivia, Chile, began publishing seminal work on the properties of a select formulation of **andrographolides** in countering the effects of rheumatoid arthritis.

Burgos's group discovered that the formulation suppressed inflammatory mediators such as interferon-gamma and interleukin-2 (IL-2), while protecting against cell death induced by corticosteroids.⁴⁴

... Scientific advances in our understanding of curcumin's molecular action have led to its application in the treatment of rheumatoid arthritis.

They further demonstrated that andrographolides directly prevent NF- κ B from binding to DNA in inflammatory cells, thereby preventing it from activating production of dangerous inflammatory mediators.⁴⁵

In 2009, Burgos's team was able to demonstrate this andrographolide formulation's dramatic anti-rheumatic effects for the first time *in humans*. Just **200 mg** daily for 18 weeks resolved RA-related anemia, restoring red blood cell levels to the normal range while lowering the inflammatory marker **C-reactive protein** (CRP) to normal.⁴⁶

When rheumatoid arthritis sufferers were given 200 mg of andrographolides or the same dose of a non-steroidal anti-inflammatory drug (NSAID), the patients receiving the andrographolides had a significant drop in RA-specific auto-antibodies (antibodies directed against their own tissue), while the NSAID group saw a rise in some of those levels.⁴⁷ Relief from



joint pain and rigidity was seen in the andrographolide and the NSAID groups.

After these two preliminary, unpublished studies validated the efficacy of andrographolides, Dr. Burgos's group subsequently performed a larger study: a prospective, randomized, double blind, placebo-controlled clinical trial.

They published the results in late 2009.⁴⁸ Significant improvements over placebo were found for **joint pain** and swelling as well as the number and severity of **tender, swollen joints**. Quality

of life scores also improved significantly in the supplemented subjects, and levels of some biochemical markers of immune system activation were decreased in the group who took the active supplement.

Successful RA Intervention with High-Potency Curcumin

Derived from the traditional Indian spice turmeric (*Curcuma longa*), **curcumin** has been shown to beneficially modulate the underlying mechanisms behind a host of chronic diseases, including cardiovascular disease, cancer, diabetes, Alzheimer's disease, and osteoporosis, among others.⁴⁹⁻⁶¹

Scientific advances in our understanding of curcumin's molecular action have led to its application in the treatment of rheumatoid arthritis as well.^{54,58,62}

As with *andrographolides*, **curcumin** and its main constituents, the **curcuminoids**, powerfully inhibit NF- κ B, downregulating multiple inflammatory pathways.^{54,63} Of course, global suppression of immune function is emphatically *not* desirable since it opens the body up to deadly infections—in fact, that is precisely what makes existing pharmacological therapies potentially dangerous. Curcuminoids, by contrast, can increase normally functioning immune cell numbers in people with recurrent infections,⁶⁴ and reverses the immune suppression caused by some cancers.^{65,66} And in animal models of inflammatory arthritis, curcumin can produce a remarkable *antigen-specific* suppression of inflammation, meaning that only the dangerous inflammatory response is quenched, leaving healthier immune functions unaffected.⁶⁷

Curcumin suppresses **gene expression** of *matrix metalloproteinases*,⁶⁸ destructive enzymes that dissolve cartilage.⁶⁹ It also blocks numerous inflammatory signaling molecules that aggravate painful joint inflammation.^{70,71} Curcumin is a powerful inhibitor of **migration inhibitory factor**, now thought to play a significant role in many of the symptoms of rheumatoid arthritis.⁷²

Curcumin also blocks the multiple effects of the **inflammatory cytokine** IL-1beta, which contributes to much of the devastating, painful destruction of joint cartilage symptomatic of rheumatoid arthritis. Lab studies show that curcumin *slows* the degeneration of cartilage caused by IL-1beta while *restoring* normal cartilage protein production.⁷³

RA cartilage deterioration is also mediated by an enzyme called **collagenase**, whose action is also powerfully neutralized by curcumin.⁷⁴ A newly discovered cytokine called **IL-18** may also play a role in rheumatoid arthritis by triggering vascular endothelial growth factor (VEGF), an agent that triggers blood vessel growth (*angiogenesis*) and thickens joint membranes. Curcumin downregulates IL-18's stimulatory effect on VEGF, thus reducing angiogenesis and promoting healthy joint membranes.⁷⁵

In 2006, rheumatologists undertook a study examining curcumin's efficacy in treating RA.⁷⁶ They induced rheumatoid-like arthritis in lab rats and then treated them with turmeric extracts rich in curcumin. The scientists reported that the extract "*profoundly inhibited joint inflammation and periarticular joint destruction... [and] prevented local activation of NF- κ B and the subsequent expression of NF- κ B-regulated genes mediating joint inflammation and destruction.*" In fact, they conducted other research showing that they could **prevent** lab-induced rheumatoid arthritis in animals through the use of a special curcumin formulation.⁷⁷

With respect to its application in humans, the challenge has been that raw curcumin is not well *absorbed* in the intestinal tract.⁷⁸ This has proven an obstacle in the scientific application of curcumin for managing the effects of rheumatoid arthritis.^{68,78}

All of that changed in recent years.

RA researchers are using an enhanced preparation of **curcumin** standardized to a **95%** concentration of curcuminoids that reincorporate many of the components of raw turmeric root that are normally removed





during the extraction process. This enhanced extract was found to be **6 to 7 times more bioavailable** than conventional curcumin extracts. Importantly, this enhanced curcumin was absorbed more rapidly and retained longer in the blood, compared with standard curcumin preparations.^{79,80}

In an as-yet-unpublished, randomized, controlled trial, researchers compared this enhanced curcumin preparation to the commonly-used NSAID diclofenac.⁸¹ Forty-five subjects with mild to moderate disease activity as rated on a standard score were enrolled and randomly assigned to 3 groups. One group received **500 mg** of enhanced curcumin twice daily, another both 500 mg enhanced curcumin and 50 mg diclofenac, and a third group 50 mg diclofenac only, and their conditions were evaluated over the next 8 weeks, including blood testing and disease scoring.

The greatest reduction in the disease activity score was attained by the patients treated exclusively with enhanced curcumin. The diclofenac group experienced the least improvement! Similarly, the supplement-only group showed the greatest improvement in the inflammatory blood markers C-reactive protein and antistreptolysin O (ASO).⁸¹

Summary

While its origin and causes are not fully understood, rheumatoid arthritis involves system-wide, chronic inflammation in the body. Until recently, mainstream medicine's focus on highly profitable single-target drugs has left the 1.3 million rheumatoid arthri-

tis sufferers in this country with few attractive and affordable options. A novel set of safe, multi-targeted natural agents has been identified that disrupts the inflammatory cascade involved in rheumatoid arthritis at multiple stages. **Curcuminooids** and **andrographolides** specifically target the conditions associated with rheumatoid arthritis, including underlying gene transcription factors involved in the body's inflammatory response. Both compounds provide multi-modal relief from inflammation and other symptoms of rheumatoid arthritis, suppressing inflammatory cytokines throughout the body and reducing joint swelling, pain, and stiffness. Clinical trials suggest they may act as powerful complements or alternatives to some pharmaceutical interventions. ●

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

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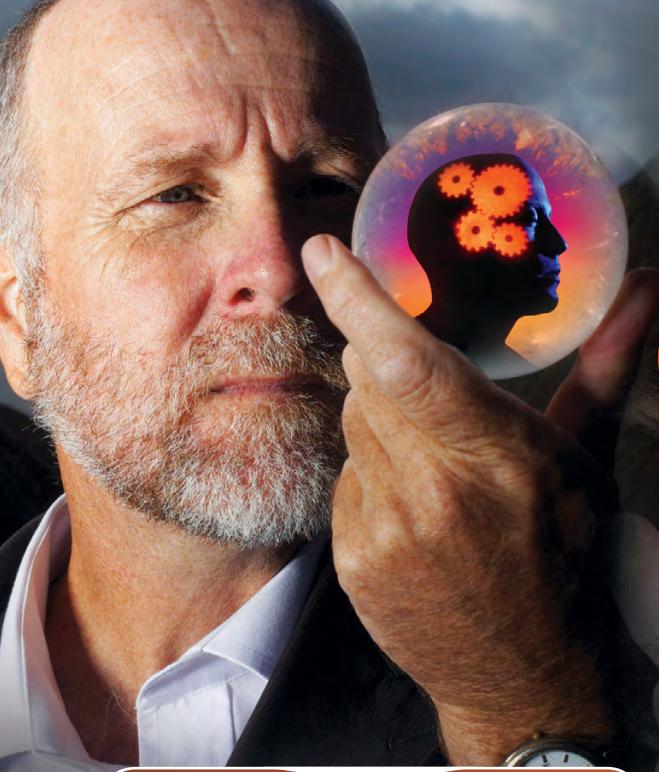
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FIGHT BACK AGAINST BRAIN AGING WITH COGNITEX



Just three softgels of Cognitex provide the following nutrients:

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



Item #00921



Item #00922

Diminished levels of neurotransmitters and other brain compounds profoundly affect cognition and memory in aging adults. **Cognitex** was developed in 1982 to increase brain levels of **acetylcholine** — a neurotransmitter that enables neurons to communicate. Over the years, **Cognitex** has been improved with the addition of nutrients used in **Europe** to protect and enhance neurological function.



Cognitex with Pregnenolone & NeuroProtection Complex provides the following **scientifically validated** nutrients to provide broad-spectrum neurological support:

- **Uridine-5'-monophosphate (UMP)** is a phosphatide building block of RNA-DNA that is critical to optimal brain function and the health of neuronal cell membranes. Naturally found in the milk of nursing mothers, UMP is essential not only for the growth and development of infant brains, but also for healthy cognitive function in aging adults.
- **Sharp-PS® GOLD**, a rich **phosphatidylserine** compound bound to **DHA**, promotes already-normal neuronal cell membrane function and structure.
- **Alpha-glyceryl phosphoryl choline (A-GPC)** boosts acetylcholine, a critical neurotransmitter that declines with age.
- **Vinpocetine** enhances circulation and oxygenation to brain cells, improves neural electrical conductivity, and protects against neuron-destroying excitotoxicity.
- **Phospholipid-grape seed extract** bound together results in a compound that is better absorbed into the bloodstream where it improves blood vessel tone and elasticity, thus enhancing blood circulation and oxygen flow to the brain.
- **Wild blueberry extract** protects against free-radical damage in the brain and helps maintain fluid balances already within the normal range.
- **Sensoril® ashwagandha extract** helps alleviate mental fatigue by inhibiting an enzyme (acetylcholinesterase) that degrades acetylcholine in the aging brain.
- **Proprietary NeuroProtection Complex Blend** contains standardized extracts of **hops**, **ginger**, and **rosemary** — proven to help with inflammation.
- **Pregnenolone** is a hormone that may be especially beneficial to the brain.

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

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

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



SUPER BOOSTER

with the most effective form of Vitamin K2, Gamma Tocopherol, Ginkgo, and much more!

Despite abundant scientific validation, many people still do not take vital nutrients because they don't want to swallow so many pills. This problem has been solved with a one-per-day softgel that includes multiple health-promoting nutrients in just one supplement. The Life Extension® Super Booster contains critical oil-based nutrients that cannot be incorporated into dry-powder based formulas like the Life Extension Mix™.

The Super Booster has been upgraded to provide higher doses of the most effective form of vitamin K known as menaquinone-7. Just one Super Booster softgel provides:

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

• **Sesame Lignans** Sesame lignans augment the antioxidant effects of both alpha- and gamma-tocopherol. In a human study conducted at Life Extension, gamma tocopherol plus sesame lignans was 25% more effective in suppressing measurements of free-radical damage than gamma tocopherol and tocotrienols.

• **Vitamin K2** Vitamin K1 from dietary plant sources is poorly absorbed and only a small fraction gets into the bloodstream. Vitamin K2 is absorbed much more efficiently. Scientific studies show K2 provides superior benefits for the bones, arteries, and other tissues. The MK-4 form of vitamin K2 is the most rapidly absorbed and is now routinely used in Japan to maintain healthy bone density. MK-4, however,

Just one softgel of Super Booster supplies:

Gamma tocopherol	230 mg
Ginkgo extract	120 mg
Chlorophyllin	100 mg
Vitamin K2 (as menaquinone-7)	100 mcg
Vitamin K2 (as menaquinone-4)	1000 mcg
Vitamin K1	1000 mcg
Sesame lignans	20 mg
Lycopene	10 mg
Lutein	2 mg
Se-methylselenocysteine	67 mcg
Selenomethionine	67 mcg
Sodium selenite	67 mcg
Vitamin B12	300 mcg
Vitamin C	90 mg
Ascorbyl palmitate	50 mg
Zinc	10 mg
Mixed tocopherols	130 mg

only remains active in the blood for a few hours. The MK-7 form of K2, on the other hand, remains bioavailable to the human body over a sustained 24-hour period. Super Booster now provides more MK-7 than ever before — to keep calcium in the bone and out of the arteries.

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

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

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

• **Chlorophyllin** Scientific studies indicate that chlorophyllin may protect against environmentally induced damage to DNA.

• **Selenium** Some scientific evidence suggests that consumption of selenium may reduce the risk of certain forms of cancer. However, the FDA has determined that this evidence is limited and not conclusive. Selenium's effects in boosting glutathione are well-established.

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

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



Item #01380

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

Caution: Those individuals currently taking anticoagulants such as Coumadin® (warfarin) should consult their personal physician before taking supplemental vitamin K.

Lyc-O-Mato® is a registered trademark of LycoRed Natural Products Limited.



Ease Joint Discomfort With Arthro-Immune Joint Support

*Effectively
Combat Inflammation*



One capsule provides:

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

Item #01404

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

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

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

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

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

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

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

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

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

References:

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





Don't Fall Victim to Frailty

*Evidenced-based strategies for
lifelong power in aging individuals*

BY WILLIAM DAVIS, MD

Frailty is an age-related deterioration in physical strength and overall performance. We see it in the hunched-over elderly man or woman weakened by fatigue, brittle bones, muscle wasting, and limited mobility.

Frailty is a preeminently preventable condition.

In recent years, the pace of clinical research on how to *enhance* physical strength and performance in the face of aging has accelerated.

We now have at our disposal a specific set of evidence-based strategies aimed at the *underlying biological mechanisms* by which we grow weaker over time.

Armed with these techniques, you can regain waning vitality, command better memory, and tightly focus your mental power.

In this examination, we explore a multi-targeted approach to enhance physical stamina, energy, endurance, and overall performance. >>

Avoiding and even *reversing* the onset of age-related declines in strength and performance may be achieved simply, effectively, and naturally. The key lies in five core strategies:

- Replacement of *basic nutrients* important for performance
- Restoration of *hormones* that underlie performance
- Enhancing *physical capacity*
- Boosting energy through non-hormonal means
- Enhancing sleep to boost daytime physical effectiveness.

One of your primary goals is to have high energy from the moment you wake up and to sustain it throughout the day, followed by a healthy transition to sleep. Although there is more to supercharged physical performance than high energy, having plenty of physical and emotional stamina is a basic requirement.

Here, we will focus on the key nutritional interventions that may help boost your physical strength and performance.

Basic Nutrients

You wouldn't drive a car without changing the oil every few thousand miles. For the same reason, two essential nutrients should be incorporated into your daily dietary regimen *before* you take any other steps.

Vitamin D

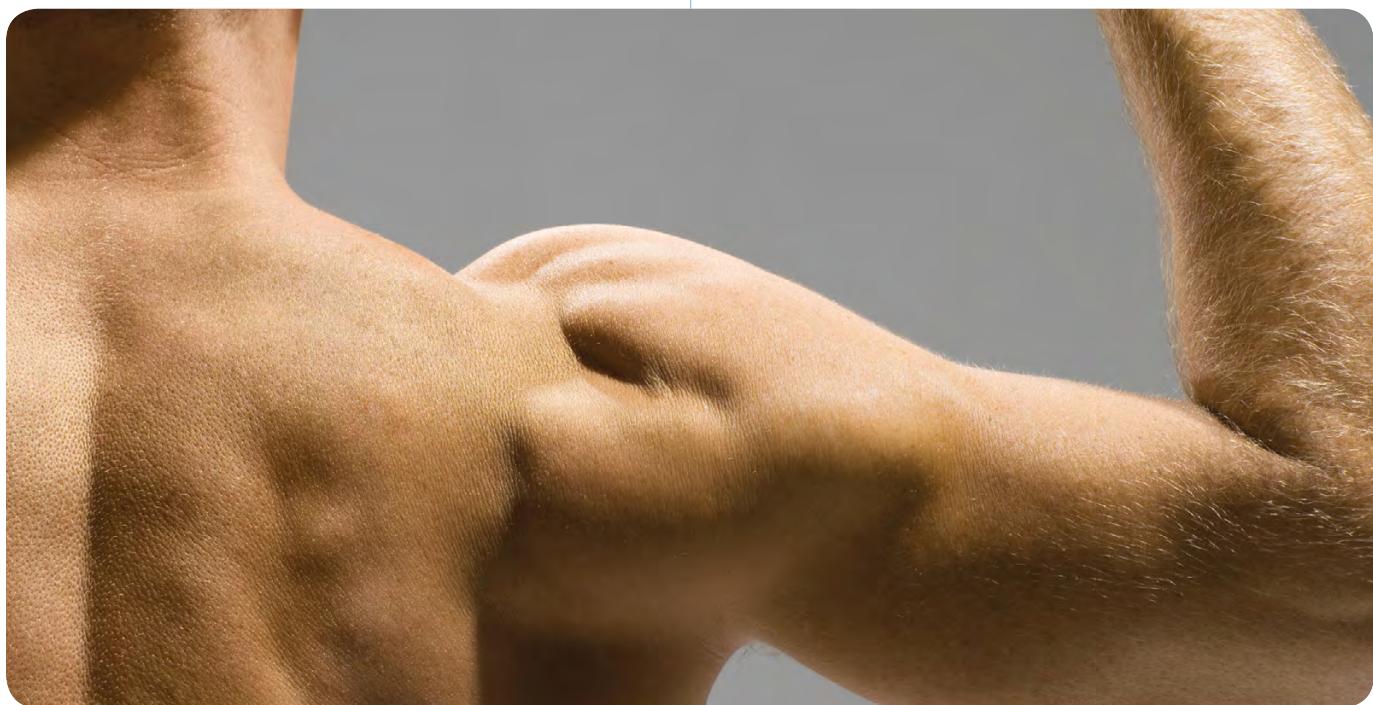
If there is any single nutrient that holds the potential for enormous health and performance gains, it's vitamin D.

Virtually ignored for decades, vitamin D supplementation may help reduce cancer risk, lessen diabetes risk, and enhance bone health, among other remarkable effects.^{1,2} Vitamin D also enhances physical strength.

Vitamin D deficiency is associated with muscle weakness, postural instability, and increased likelihood of falling.¹⁻³ A clinical study examining the effect of a minuscule dose of vitamin D (400 IU) along with **800 mg** calcium showed improved walking speed and balance by **10-20%** in elderly adults.⁴

As the founder of the Vitamin D Council (www.vitamindcouncil.org), Dr. John Cannell has been among the most vocal advocates of higher intake of vitamin D.

Dr. Cannell reviewed scientific literature concealed for years behind the Iron Curtain during the Cold War years of the former Soviet Union and East Germany. The Russians and Germans had observed marked seasonal variation in athletic performance among athletes: running was faster, jumping higher, weights lifted greater during the summer, and reduced during the winter. Further study led to the practice of vitamin D supplementation among East German and Soviet athletes, sufficient to restore blood levels to that of summer sun exposure with resultant year-round consistent physical performance.⁵



I have confirmed these published findings in over 1,000 patients with *greater* effects using higher dose vitamin D supplements. In our clinic, achieving target 25-hydroxyvitamin D blood levels of **60-70 ng/mL** has yielded greatly *augmented* benefits, compared to those obtained at lower levels. In our experience, most men and women require average doses of **5,000-6,000 IU**s per day to achieve this blood level of vitamin D. Individual needs can vary, being substantially higher or lower. Testing blood levels is therefore an absolute necessity if precise dosing is desired.

Iodine

Iodine deficiency sets a cascade of energy-depleting effects in motion.

When iodine is deficient, thyroid function diminishes, and thyroid hormone levels drop, which may lead to a hypothyroid state.⁶ Standard blood thyroid testing can suggest hypothyroidism if there is an increase in Thyroid Stimulating Hormone (TSH) and low free Thyroxine (T4).⁶ Symptoms of hypothyroidism include decreased energy, sleepiness, low moods, and poor capacity for exercise.⁷ One of the earliest and most visible signs of iodine deficiency is thyroid gland enlargement (goiter). Iodine deficiency limits physical performance from mild to profound degrees, depending on severity.

While iodine deficiency *had* been a thing of the past since the introduction of iodized salt in the early 20th century, it has returned. Iodine intake has been steadily decreasing in the US.⁸ Ironically, insufficient iodine intake primarily affects the most health-conscious: people who avoid iodized salt, processed foods, and meat. People who exercise vigorously can be among the most iodine-deficient, since substantial quantities of iodine are lost in sweat.⁹

Iodine replacement is easy. There are a number of iodine supplements that provide various forms of iodine. Choices include molecular iodine (often as drops) and kelp tablets (dried seaweed). While the Recommended Daily Allowance (RDA) for iodine is 150 mcg for non-pregnant adults, some data suggest that human need for ideal health may be greater, perhaps even approaching the experience of the Japanese, who ingest milligram doses (more than 1,000 micrograms).¹⁰ In my clinic, we prescribe **500-1000 mcg** (0.5-1.0 mg) of iodine per day from kelp tablets with success.

For those desiring higher levels of iodine to restore *depleted* iodine levels, a specialized form of iodine may be helpful, providing **12.5 mg** iodine (12,500 micrograms as molecular iodine and potassium iodide) per tablet. Anyone with suspected thyroid disease should consult their health provider before initiating iodine supplementation.



Avoiding Frailty

- Frailty is a major concern for aging individuals.
- New strategies can be applied towards supercharging human physical performance, increasing energy, focus, well-being, and exercise performance.
- Vitamin D and iodine are two necessary nutrients that are commonly deficient, potentially limiting health and performance. Replacement to healthy levels is crucial before embarking on a performance-improving regimen.
- DHEA and pregnenolone are two “bioidentical” hormones that underlie physical performance. When supplemented to restore the levels of a 30- or 40-year old, energy, well-being, and physical performance improve.
- Muscle loss with aging is followed by reduction in metabolic rate, deterioration in insulin responses, decreased bone density, and other correlates of low performance. Improved muscle mass and strength can be achieved by combining resistance training with creatine, branched-chain amino acids, and hydroxymethylbutyrate.
- Energy-boosting supplements can help restore stamina and vigorous physical performance. These include rhodiola, taurine, tyrosine, and phenylalanine.
- Ensuring adequate duration and quality of sleep is crucial for optimum performance. Sleep quality can also be enhanced, principally by achieving deeper sleep with increased REM phase sleep using sleep-enhancing supplements, such as melatonin, tryptophan, and valerian.

DHEA and Pregnenolone: The Ultimate “Bioidentical” Hormones

Restoring hormones to more youthful levels is a key strategy for maintaining strength as you age. With the passage of time there is an inevitable decline in hormones that sustain energy and performance.^{11,12} As these hormones recede, energy and performance diminish along with them.

There has been a lot of fuss over whether or not “bioidentical” hormones—estrogens, progesterone, and testosterone that are identical to those naturally found in the human body—are superior to *non*-bioidentical forms dispensed by the drug industry. The FDA is currently considering clamping down on the availability of bioidentical hormones and the claims that they are safer and superior to non-bioidentical hormones, despite a groundswell of grassroots support for them. The argument has pitted anti-aging practitioners and the public, as well as the likes of Oprah and Suzanne Somers, against Big Pharma and the FDA—the two forces trying to squash the bioidentical hormone movement.



Regardless of heavy-handed FDA policies, we already have access to hormones identical to the original human form that require no prescription and yield hormones the human body recognizes as bioidentical: **DHEA** and **pregnenolone**. These two hormones are precursors to the other hormones at the center of the bioidentical hormone controversy, such as estrogen and testosterone. We therefore already have, in effect, two very effective over-the-counter, non-prescription forms of bioidentical hormones.

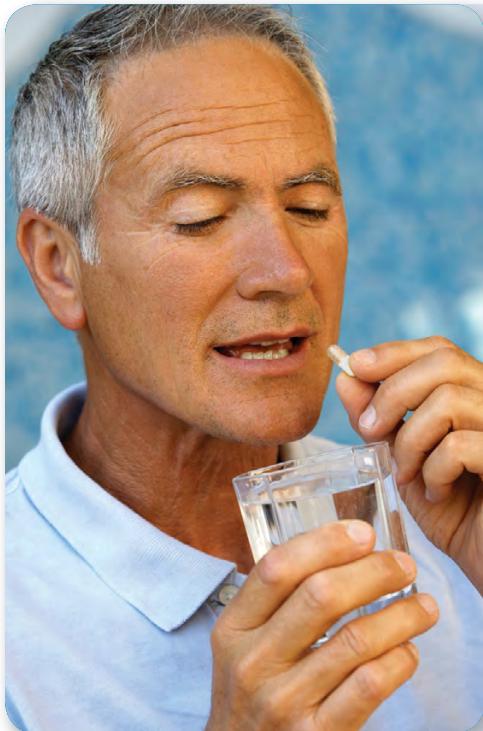
DHEA

Dehydroepiandrosterone (DHEA) is a hormone secreted by the adrenal glands in large quantities during our 20s and 30s. DHEA levels begin a sharp decline at age 30 in men and age 40 in women, along with declining muscle mass, bone density, sex hormones, growth hormone, and increasing body fat. The decline accelerates after age 50. By age 70, DHEA blood levels are usually **20-30%** or less of youthful levels.¹¹

DHEA administration to adults (average age 44 years) with major depression has been shown to enhance emotional well-being.¹³ In women with androgen deficiency, DHEA supplementation has been reported to increase alertness, stamina, and sexual interest.¹⁴ DHEA supplementation increases testosterone modestly in women and slightly increases androstanedione levels in men, while increasing physical and psychological well-being in both genders.¹⁵ Most studies documenting the physical and emotional benefits of DHEA have examined doses between 10 and 100 mg per day, the quantity required in most people to restore blood levels to match that of the third decade of life.¹¹ Physical performance enhancement is best obtained with doses of no more than 100 mg per day, usually **10-25 mg per day in women** and **25-50 mg per day in men**. Anecdotally, benefits are amplified if DHEA is used in combination with testosterone in men, and combined with progesterone in women.

Though difficult to quantify, DHEA replacement helps many people feel better: more physical stamina, a brighter outlook, and more “get up and go.” Problems seem less overwhelming and “lows” tend not to be quite as low.^{11,15} Though there are clinical data to support these “soft” effects, they are inconsistent. In the author’s experience, people who start out with sluggishness, low energy, and a negative outlook, accompanied by a low DHEA level (measured as a DHEA-S level of **<250 pg/dL**), are the most likely to experience positive results with DHEA replacement.

Side effects at high doses (50-200 mg per day) may include acne, increased facial hair, and increased perspiration. Individuals with hypertension or who are taking the drug **diltiazem** should not supplement



SUGGESTED SUPPLEMENT DOSES

SUPPLEMENT	DOSAGE
Vitamin D	5,000-6,000 IU per day
Iodine	500-1,000 mcg per day
DHEA	10-25 mg per day (women) / 25-50 mg per day (men)
Pregnenolone	100-300 mg per day
BCAA	5-20 grams per day
HMB	3 grams per day
Creatine	15-20 grams per day (loading phase) / 2-5 grams per day
Rhodiola	200 mg per day
Tyrosine	1,500-7,000 mg per day
Phenylalanine	50-100 mg per day
Taurine	1,500 mg-6,000 mg per day
Melatonin	1-3 mg per night, 1-2 hours before sleep
L-Tryptophan	250-2,500 mg at bedtime
Valerian	300-600 mg, one hour before bedtime

with DHEA except under the close supervision of a doctor. Those with breast or prostate cancer or a family history of these conditions should *not* take DHEA supplements unless specifically directed to do so by their doctor.

Pregnenolone

Pregnenolone is an adrenal gland hormone, the first hormonal product synthesized from cholesterol, and the basic precursor from which all sex hormones (testosterone, progesterone, and estrogens) and adrenal hormones (DHEA, cortisol, and aldosterone) are made.¹⁶ Like DHEA, pregnenolone levels peak during our 20s and 30s, followed by a decline with aging and the passing of the years, particularly in women.¹⁷

Pregnenolone and DHEA may have special relevance in the 21st century. The low-fat dietary mistake of the last 30 years has led to excessive carbohydrate intake. Pregnenolone and DHEA levels may drop dramatically in those with high carbohydrate intakes or higher levels of fasting blood sugar. In clinical studies, infusions of glucose (blood sugar) in healthy adults *reduced* pregnenolone levels by **51%** and DHEA levels by **57%** within 80 minutes.¹⁸

Pregnenolone exerts complex effects in the human brain, and is thought to modulate stress and mood. However, among pregnenolone's effects is enhanced **acetylcholine** activity, a process that underlies memory and thinking.¹⁹ Multiple experimental models suggest that pregnenolone acts as a "neurosteroid" in

the brain, a potent modulator of brain excitability.¹⁹

Pregnenolone may be especially helpful for females who require increased levels of progesterone and testosterone, since this single agent can increase both. One potential uncommon downside: increased blood pressure. Pregnenolone is the source of multiple hormones, including a class of hormones called mineralocorticoids.²⁰ In susceptible people, this could potentially cause water retention and increased blood pressure.

Supplementation of both DHEA and pregnenolone is generally not advised under the age of 40, unless a health provider has documented low levels. Pregnenolone has antagonistic effects on gamma-amino butyric acid (GABA) receptors in the central nervous system; therefore supplementation with pregnenolone is not recommended for people with a history of seizures.²¹

Enhanced Physical Capacity

Loss of muscle mass with aging is a common process that begins in our 40s and accelerates as the years pass. Decreased muscle mass with aging can lead to "sarcopenia," a state of decreased muscle mass and strength that reduces metabolic rate, contributes to insulin resistance and increased risk of type 2 diabetes, promotes unhealthy blood lipid profiles, and promotes hypertension.²²



However, age-related loss of muscle mass need not be the dramatic, inevitable decline expected by most people. Targeted interventions can reverse this muscle loss and improve performance as a result. Strength training by itself can help restore muscle mass and reverse the unhealthy consequences of sarcopenia.²³ However, results could potentially be enhanced by combining strength training with the supplements creatine and branched-chain amino acids.^{24,25}

Creatine

Since its introduction in the early 1990s, creatine use has exploded among bodybuilders and athletes interested in gaining muscle mass and strength.

Even if you're not interested in building big muscles like a bodybuilder, there are health benefits to increasing muscle mass. By increasing muscle mass, you can support bone density, improve balance, and reduce injuries, along with preventing debilitating muscle wasting.^{26,27}

Creatine is not just for weight lifters. A study of creatine supplementation in men (average age 70 years) demonstrated that strength training plus creatine increased muscle mass by 7.26 lbs. In contrast, men who performed the same strength training program and consumed placebo gained only 2.86 lbs of muscle mass. Creatine and strength training also improved leg strength and endurance.²⁸ Strength, endurance, and lean tissue are maintained 12 weeks after stopping creatine supplementation and engaging in a reduced-intensity training program.²⁹

Similar results were observed in another study that included women (age 65 and older), with outcomes in females comparable to males.³⁰ Increased strength and

muscle mass led to 3.2% increase in bone mineral content over 12 weeks of strength training supplemented with creatine, compared to 1% decrease without training or creatine.³¹

The most popular form of creatine is creatine monohydrate, generally taken as a "loading" phase of **15-20 grams per day** (generally split into 3-4 doses of 5 grams) for 5-7 days, followed by weeks to months of **2-5 grams per day**.³² An alternative form, polyethylene glycosylated (PEG) creatine, provides similar effects at one-fourth to one-half the dose of creatine, i.e., **1.25-2.5 grams per day**.³³ Athletes taking creatine for up to 21 months have shown no adverse effects on kidney function, lipid values, or other basic health measures.³⁴ People with kidney diseases (such as glomerulonephritis, glomerulosclerosis, or interstitial nephritis) should not take creatine supplements unless so directed by their physician.

Branched-Chain Amino Acids (BCAA) and Hydroxymethylbutyrate (HMB)

The so-called branched-chain amino acids (valine, isoleucine, and leucine) are amino acids that are essential to muscle maintenance and growth. BCAA are widely used by athletes and weight lifters to accelerate recovery after exercise.³⁵

When combined with strength training, BCAA protein powder supplements reduce muscle soreness and accelerate recovery. Doses of BCAA used successfully have varied widely in studies, generally from **5 g up to 20 g per day**.³⁶

Leucine has been shown to increase muscle protein synthesis.³⁶ A metabolite of leucine called hydroxymethylbutyrate (HMB) is useful to help non-athletes

gain muscle mass and increase physical performance. A study of 31 men and women, average age 70 years, showed enhanced muscle growth and fat loss with supplementation of HMB, **3 g** per day, combined with strength exercises performed 5 times per week.³⁷

While HMB and creatine each possess unique muscle mass-increasing effects, *additive* benefits develop when the two are combined with resistance exercise. In one study, over a 3-week training period, those who supplemented with both creatine and hydroxymethylbutyrate (HMB) gained more lean mass than those who only utilized one of the supplements.³⁸ By increasing strength and muscle mass, we can expect bone density to increase, balance to improve, metabolic rate to accelerate, and insulin responses to normalize.

... Valine, isoleucine, and leucine are essential to muscle maintenance and growth... and are used by weight lifters to accelerate recovery after exercise.

Energy Boosters

Energy boosters are supplements that increase energy, but not through replacement of low hormone levels or correcting nutrient deficiency. These agents boost energy and performance through a variety of unique mechanisms.



Rhodiola

The **adaptogen** rhodiola (*Rhodiola rosea*) is a relatively recent discovery to the US, but has been used for centuries to enhance strength and resilience by people in the mountainous regions of northern Europe and central Asia.

Recent randomized, double-blind research confirms the observations made in real-world experiences. Individuals with stress-related fatigue experienced increased stamina and mental focus upon supplementing with **576 mg** of rhodiola extract per day.³⁹ In this

study, a reduction in cortisol response to awakening stress appeared to be part of the explanation behind the observed effects. No side effects were observed in the treatment group.

In another study, increased exercise endurance was observed in young healthy volunteers who supplemented with rhodiola, **200 mg per day**.⁴⁰

Interestingly, a double-blind study involving a competitive rowing team showed that rhodiola supplementation increased total antioxidant levels in the plasma of those taking the supplement vs. those taking placebo.⁴¹

Tyrosine

L-Tyrosine (tyrosine) is the amino acid source that provides the starting material for the synthesis of several neurotransmitters, including dopamine, epinephrine (adrenaline), and norepinephrine, and is also involved in the function of organs responsible for making hormones, including the thyroid gland.

Tyrosine supplementation has been studied and applied successfully by the US military as a means of maintaining performance and mood in the face of prolonged, stressful situations such as battle or sleep deprivation.^{42,43} Tyrosine appears to reduce the perceived effects of stress, though relatively high doses may be required for these effects (up to 100 mg/kg, or **7,000 mg** for an averaged-sized adult).⁴⁴

Tyrosine supplementation has been observed to decrease rather than increase blood pressure.⁴⁵

Theoretically, the combination of tyrosine with tryptophan (a precursor of serotonin) could have potential for even more marked energy and mood-elevating effects.⁴⁶ The long-term safety of L-tyrosine in excess of 1,000 mg per day, however, is not known.

Phenylalanine

The essential amino acid, **phenylalanine**, provides the backbone for the body to synthesize the hormones that modulate the stress response, epinephrine and norepinephrine. Low phenylalanine means low adrenaline and low energy. Adequate availability of phenylalanine means access to epinephrine and norepinephrine when you need it. Because depression may, at least in part, be related to lower levels of these hormones, phenylalanine in the amount of **150-200 mg per day** has been used successfully for treatment of depression, with effects similar to prescription drug **imipramine**.⁴⁷

Please use judgment in your use of phenylalanine. If used properly, it can suit your needs: boost energy, and smooth the inevitable fluctuations in mood and stamina. If used unwisely, trouble can result, including high blood pressure and anxiety.⁴⁸

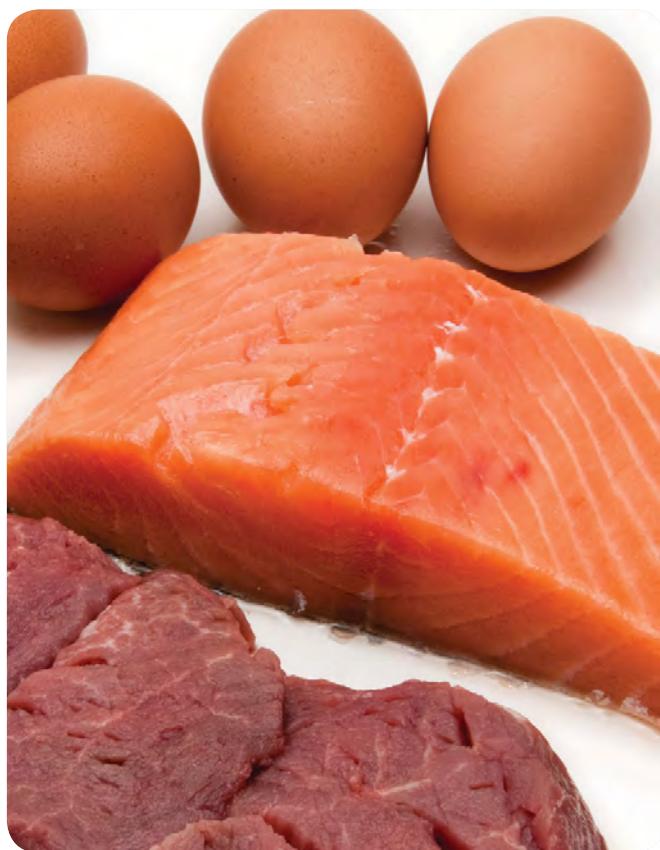
Low doses and *occasional* use are the keys with phenylalanine, e.g., **25-50 mg**, 2 times per day. Evening doses should be avoided, since insomnia can result.

People with the genetic disorder called **phenylketonuria** (PKU) need to avoid phenylalanine-containing foods and supplements and therefore should not take phenylalanine. Also, anyone with hypertension should use phenylalanine carefully under the supervision of a health provider.⁴⁸ People with tardive dyskinesia may not be able to correctly process phenylalanine, and should therefore avoid phenylalanine supplementation. L-phenylalanine competes with several other amino acids for uptake into the body and the brain. For best results, phenylalanine should therefore be taken between meals, or away from protein-containing foods.

Taurine

Taurine is an amino acid found particularly in protein-rich foods like eggs, meat, and fish. Among its many effects in the human body, taurine is an important constituent of bile and participates in the absorption of fats and fat-soluble vitamins.⁴⁹ Some studies have suggested that, along with omega-3 fatty acids, taurine is the component of fish that confers its substantial cardiovascular benefits.⁵⁰

Several studies have suggested that taurine supplementation at a dose of **2,000 mg** enhances endurance exercise performance (cycling, running, rowing), possibly by reducing lactate production; its effects may be enhanced when taken in combination with caffeine.^{51,52} Studies of mental performance and information processing have also suggested positive effects of taurine, also in combination with caffeine and glucuronolactone.^{53,54} Taurine supplementation is safe in adults at doses of **1,500-6,000 mg daily**.⁴⁹



Sleep Enhancement

In the modern world, people are forever searching for ways to abbreviate the need for sleep. Sleep is commonly sacrificed for the sake of enjoying more waking hours. The National Sleep Foundation recommends that adults sleep at least 7 hours nightly, but **29%** of US adults fail to get even this much sleep.⁵⁵ Chronic sleep deprivation can lead to overreliance on stimulants to boost energy and to compensate for the performance-reducing effects of sleep deprivation.

In truth, there is simply no healthy means to reduce your need for sleep. The fact is, we need our sleep. Any effort to reduce our need for sleep forces us to pay the price with reduced physical, mental, and emotional performance—even increased mortality.⁵⁶ If we accept this fact, then let's ask the question: can we *enhance sleep quality* to derive greater daytime physical performance?

First, a brief sleep primer. Sleep is a mind-active, body-inactive state. Like the seasons of the year, the brain proceeds through a predictable series of phases distinguishable by intensity, frequency, depth, duration, and content. The effects of disrupting sleep phases, even with a full night of sleep, are serious, as evidenced by sleep disorders like sleep apnea, a

condition involving pauses in breathing that occurs during sleep. They include snoring, disturbed sleep, reduced concentration and memory, mood disorders, excessive sleepiness and, if left untreated, cardiovascular disease, decreased health-related quality of life, and increased incidence of motor vehicle accidents.⁵⁷

In general, non-restorative sleep has been associated with excessive daytime sleepiness, high blood pressure, higher levels of inflammation.⁵⁸⁻⁶⁰

One useful strategy to derive maximum benefit from sleep is to ensure, even *enhance*, the duration and quality of deepest phases of sleep.⁵⁹ Unfortunately, some prescription sleep agents, especially the benzodiazepine class, introduce some undesirable effects on sleep, including abbreviated rapid-eye movement (REM) sleep and next-day sleepiness.⁶⁰

Diminished pineal gland secretion of the natural human sleep hormone, **melatonin**,⁶¹ accounts for a gradual decline in sleep duration and quality as we age.⁶²

Melatonin is available as a dietary supplement and is a useful agent to encourage the body's *physiologic acceptance of sleep*: body temperature is lowered, blood pressure reduced, and REM sleep prolonged.^{63,64} Dose needs vary from **1-3 mg** per night to generate these effects. Melatonin is best taken at least 1-2 hours before sleep is desired, unlike the 30 or so minutes of a sleeping pill. The key is to start with a low dose,

even as low as 0.5 mg, and build gradually to determine the ideal dose for you. High-dose melatonin is typically reserved for other uses, such as the treatment of cancer or sarcoidosis.

L-tryptophan, an amino acid that converts to the sleep-regulating hormone, serotonin, can also be useful to encourage sleep, though the effects on sleep architecture are complex.⁶⁵ Interestingly, tryptophan *depletion* is a tool used in research to explore the effects of both tryptophan and serotonin on sleep; tryptophan depletion (e.g., low-protein diet) has been found to adversely affect sleep patterns.⁶⁶ Tryptophan, usually in the dose range of **250-2,500 mg**, shortens the amount of time to achieve sleep (shortened "sleep latency") and increases deep sleep and REM.⁶⁷

Valerian (*Valeriana officinalis*) is the leading medicinal herb for the treatment of insomnia. It has, in multiple double-blind studies, been shown to improve sleep quality even in people with restless leg syndrome, in which abnormal discomfort and movement of the legs disrupts sleep, using a dose of 800 mg before bed.⁶⁸⁻⁷⁰ Faster sleep onset and increase in slow-wave phase sleep also develops with valerian supplementation.⁷¹ The optimal dose of valerian as the extract remains uncertain, though most clinical studies have used doses in the range of **300 to 600 mg** taken one hour before bedtime; side-effects have compared favorably to placebo.^{72,73}



Summary

Frailty—age-related deterioration in physical strength and performance—is a critical concern for aging individuals. A growing body of literature demonstrates that nutrients, hormones, and herbal extracts can be used to ward off age-related weakness and enhance human performance throughout life span. Optimizing human performance relies on five pillars: ensuring basic nutritional status, restoring performance-enhancing hormones, preventing muscle weakness and enhancing strength, boosting energy, and restoring healthy sleep. This multi-faceted program can help you ensure supercharged performance—for life. ●

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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Combining ubiquinol CoQ10 with shilajit generates a powerful synergy that supports more youthful cellular energy production than CoQ10 alone.^{2,4,5} What's more, Life Extension has added this novel ingredient to its CoQ10 formulations without increasing the price! So you get a more effective CoQ10 at the same cost!

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

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

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



Item #01426

Item #01425

Breakthrough probiotic: Theralac® now available to Life Extension Members.

**THERALAC® IS SO EFFECTIVE
MAINTENANCE DOSE IS ONLY
2 CAPSULES PER WEEK!**



Theralac's breakthrough technology **guarantees** **100% LIVE DELIVERY** of its probiotics into the intestinal tract, something other probiotics can't do. Once in the gut, Theralac's **CLINICALLY PROVEN STRAINS** are stimulated into action by LactoStim® – a patented prebiotic that feeds probiotics. Rapid colonization of intestinal surfaces follows and intestinal comfort is restored.

It's all about competitive exclusion.

Probiotics work by competitively excluding harmful microorganisms from gut surfaces. When Theralac's probiotics are present the "bad bugs" can't occupy the same space. Probiotics make lactic acid, a food acid that bacteria like Salmonella and E. coli hate – each lot of Theralac is pre-tested for lactic acid production which, along with CFU* and purity, is published by lot# at theralac.com.

* CFU = colony forming units – a measure of live strength.

Theralac delivers 30 billion CFU into the gut.

Big CFU numbers on a probiotic bottle mean nothing if they are killed in the stomach. At a pH below 2.0 (typical in stomach), > 99% of Lactobacillus and Bifidobacterium

probiotics are killed. **Theralac's probiotics survive!** A patented gel formulation utilizes sodium alginate from seaweed and grape skin extract to protect Theralac's strains – a powerful dose of **30 billion CFU is delivered ALIVE** into the gut. Theralac is guaranteed through expiration and protected by US patents 7,122,370 and 7,229,818.

Clinically proven strains in Theralac:

- ▶ *L. acidophilus LA-1 (NCFM)*
- ▶ *L. paracasei F-19*
- ▶ *L. rhamnosus LR-44*
- ▶ *Bifidobacterium lactis BL-34 (BI-04)*
- ▶ *Bifidobacterium lactis Bi-07*

Lactobacilli work in the small intestine, Bifidobacteria in the colon. **ONE BOTTLE LASTS 10 WEEKS!**

To order, call **800-544-4440** or visit lifeextension.com. For more information visit theralac.com.

**30
Billion
CFU
PER CAPSULE**



Clinically proven strains

For references, go to:
www.theralac.com/tscs.aspx

Theralac, 30 capsules
Item# 01038

Retail price: \$44.95
Call for LEF Member Pricing

Recommended
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in The Blaylock
Wellness Report



Take the Theralac® challenge.

Try a bottle of Theralac® and if you do not believe it is the fastest-acting probiotic available, return the bottle and Life Extension will refund your money...no questions asked.

Life Extension®

Call **800-544-4440**



Master Supplements
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theralac.com

Q: & A:

WHAT DO THESE TWO DHEA STUDIES HAVE IN COMMON?

1 STUDY

“DHEA enhances effects of weight training on muscle mass and strength in elderly women and men”

American Journal of Physiology
Endocrinology Metabolism
2006 Nov;291(5):E1003-8

2 STUDY

“Effect of DHEA on abdominal fat and insulin action in elderly women and men: a randomized controlled trial”

Journal of the American Medical Association
2004 Nov;292(18):2243-8

LIFE EXTENSION®’S DHEA WAS USED IN BOTH STUDIES!

DHEA (*dehydroepiandrosterone*) has demonstrated many benefits, including positive effects on body composition. Regrettably, our natural production of this hormone diminishes by about **80%** between the ages of 25 and 75 years.¹ This has been associated with a decrease in muscle mass and strength and an increase in abdominal girth.

In the first of the two studies sponsored in part by the National Institutes of Health, researchers sought to determine the effect of DHEA replacement in DHEA-deficient elderly individuals. They randomized 56 men and women to receive either 50 mg/day of **Life Extension’s DHEA** before bedtime or a placebo. Both groups then underwent a program of resistance training for four months. At the end of the study, DHEA replacement produced a significantly greater effect in enhancing the benefits of weight training on muscle mass and strength in both men and women compared with the placebo group.¹

The second study cited was conducted by the same research team. The effects of DHEA-replacement therapy or a placebo on abdominal fat were investigated for the first time in 56 DHEA-deficient elderly men and women who did not exercise regularly. Using the same DHEA-dosing regimen as in the previous study, the researchers found that DHEA levels rose to youthful ranges in both men and women. This increase was accompanied by changes in body composition. Compared with minuscule changes in weight loss in the placebo group, women taking DHEA lost an average of **10.2%** of their visceral (intra-abdominal) fat, while men shed an average of **7.4%**. Subcutaneous fat (under the skin) losses averaged 6% in both men and women taking DHEA.²

DHEA is widely available as a dietary supplement. These two studies utilized **Life Extension’s DHEA** formulation to safely restore DHEA levels to youthful ranges in these elderly individuals, which helped maximize lean tissue mass,¹ maintain healthy abdominal weight,² and support insulin sensitivity.²

References:

1. Am J Physiol Endocrinol Metab. 2006 Nov;291(5):E1003-8.
2. JAMA. 2004 Nov;292(18):2243-8.

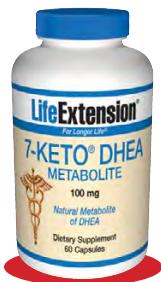


CHOOSE THE DOSE THAT'S RIGHT FOR YOU:



DHEA 15-mg, 100 Capsules, Item #00454

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



7-Keto® DHEA 100-mg, 60 vegetarian Capsules, Item #01271

7-Keto® DHEA is a metabolite of DHEA that safely increases fat-burning enzymes in the liver. Human subjects who consumed 200 mg of 7-Keto® DHEA a day in conjunction with a diet and exercise program lost more total weight and body fat than those who took a placebo.¹ Since 7-Keto® DHEA does not convert to estrogen or testosterone in the body, it can be used by those with hormone-sensitive cancers such as breast and prostate cancer. This 7-Keto® DHEA supplement contains a potent **antioxidant blend** to protect against free radicals that might be formed in response to increased fat-burning. A bottle containing 60 100-mg vegetarian capsules of **7-Keto® DHEA**, along with a special antioxidant blend, retails for \$40; if a member orders four bottles, the price is reduced to only **\$27 per bottle.**

Reference: 1. Curr Ther Res. 2000;61(7):435-42.



DHEA 25-mg, 100 Capsules, Item #00335

The minimum dose of DHEA for most healthy aging people is 25 mg a day, though optimal doses are 50–100 mg daily. These 25-mg capsules are a popular way to consume the precise amount of DHEA your body may need. A bottle containing 100 25-mg capsules of **DHEA** retails for \$15; if a member orders four bottles, the price is reduced to just **\$9.38 per bottle.**



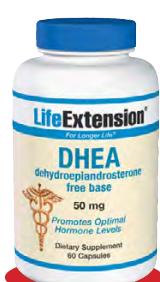
DHEA 25-mg, 100 Dissolve-in-Mouth Tablets, Item #00607

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



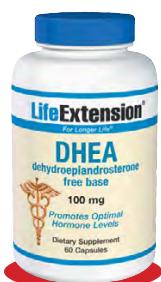
DHEA Complete (25 mg DHEA+100 mg 7-Keto® DHEA), 60 vegetarian Capsules, Item #01250

To obtain optimal potencies of both forms of DHEA, the **DHEA Complete** formula provides **25 mg of DHEA, 100 mg of 7-Keto® DHEA**, and a potent **antioxidant blend** in each capsule. For those seeking to combine the multiple benefits of DHEA and 7-Keto® DHEA, this is the ideal single-formula supplement. A bottle containing 60 vegetarian capsules of **DHEA Complete** retails for \$48; if a member orders four bottles, the price is reduced to only **\$32.40 per bottle.**



DHEA 50-mg, 60 Capsules, Item #00882

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



DHEA 100-mg, 60 Capsules, Item #00883

Some people produce so little DHEA that they need to take high doses. These 100-mg capsules provide high-potency DHEA at a very low cost. A bottle containing 60 100-mg capsules of **DHEA** retails for \$22.50; if a member orders four bottles, the price is reduced to just **\$14.25 per bottle.**

7-Keto® is a registered trademark of Humanetics Corporation.
Note: Supplements should be taken in conjunction with a healthy diet and regular exercise program. Results may vary.

To order DHEA call **1-800-544-4440** or visit **www.LifeExtension.com**



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April 15-17, 2010 Orlando, Florida



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Ports of call: Charlotte Amalie, St. Thomas Philipsburg, St. Maarten Nassau, Bahamas

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- 24 distinct dining experiences
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- The one-of-a-kind AquaTheater
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More details at our new and exciting Life Extension cruise Web site: www.LEFcruise.com**

*Prices are per person, based on double occupancy, cruise only. Government taxes, seminar fee, other fees and gratuities are additional. Subject to availability. Certain restrictions apply. Proof of travel eligibility required. If eligibility cannot be verified, you will be charged the standard rate or denied boarding. All prices are quoted in US Dollars. All itineraries and prices are subject to change without notice. Discounts are towards seminar fees only and are limited up to \$100 per cabin based on double occupancy. Ships' Registry: Bahamas. © 2009 Royal Caribbean Cruises Ltd.



Blood testing provides the ultimate information regarding correctable risk factors which 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 mailed 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 1100 West Commercial Blvd, Ft. Lauderdale, FL, 33309. We're located at Commercial Blvd and Powerline Road, just west of I-95. For more information or directions call 954-766-8144.

Blood Testing The Ultimate Information

MOST POPULAR PANELS Life Extension Member Pricing

COMPREHENSIVE PANELS

MALE LIFE EXTENSION PANEL (LC322582)

CBC/Chemistry Profile
DHEA-S
PSA (prostate-specific antigen)
Homocysteine
C-Reactive Protein (high-sensitivity)
Free Testosterone
Total Testosterone
Estradiol

\$269

MALE HORMONE ADD-ON PANEL (LCADMM)

Pregnenolone, Dihydrotestosterone (DHT), and TSH
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 the thyroid, a testosterone metabolite that can affect the prostate, and the mother hormone that acts as a precursor to all other hormones.

\$160

LIFE EXTENSION MALE WEIGHT LOSS PANEL (LCWLW)

CBC/Chemistry Profile, DHEA-S, Free Testosterone, Total Testosterone, Estradiol, PSA, C-Reactive Protein, Homocysteine, TSH, Free T4, Free T3

\$324

FEMALE LIFE EXTENSION PANEL (LC322535)

CBC/Chemistry Profile
DHEA-S
Estradiol (an estrogen)
Homocysteine
C-Reactive Protein (high-sensitivity)
Progesterone
Free Testosterone
Total Testosterone

\$269

FEMALE HORMONE ADD-ON PANEL (LCADDFF)

Pregnenolone, Total Estrogens, and TSH
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 the thyroid, total estrogen status, and the mother hormone that acts as a precursor to all other hormones.

\$130

LIFE EXTENSION FEMALE WEIGHT LOSS PANEL (LCWLW)

CBC/Chemistry Profile, DHEA-S, Free Testosterone, Total Testosterone, Estradiol, Progesterone, C-Reactive Protein, Homocysteine, TSH, Free T4, Free T3

\$324

LIFE EXTENSION THYROID PANEL (LC304131)

TSH, T4, Free T3, Free T4.

\$75

MALE HORMONE RE-TEST PROFILE (LCRTM)

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.

\$275

FEMALE HORMONE RE-TEST PROFILE (LCRTF)

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.

\$250

DR. LICHTEN COMPREHENSIVE MALE PANEL (LICHEN01M)

MALE LIFE EXTENSION PANEL PLUS:
IGF-1, FSH, LH, TSH, T4 free, Cortisol, Fasting Insulin, Sex Hormone Binding Globulin, and Hemoglobin A1C.

\$668

DR. LICHTEN COMPREHENSIVE FEMALE PANEL (LICHEN01F)

FEMALE LIFE EXTENSION PANEL PLUS:
IGF-1, FSH, LH, TSH, T4 free, Cortisol, Fasting Insulin, Sex Hormone Binding Globulin, and Hemoglobin A1C.

\$668

THE CBC/CHEMISTRY PROFILE (LC381822) 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
LDH	

\$35

KIDNEY FUNCTION PANEL

BUN	BUN/Creatinine Ratio
Creatinine	Uric Acid

BLOOD PROTEIN LEVELS

Total Protein	Globulin
Albumin	Albumin/Globulin Ratio

BLOOD COUNT/RED AND WHITE BLOOD CELL PROFILE

Red Blood Cell Count	Monocytes
White Blood Cell Count	Lymphocytes
Eosinophils	Platelet Count
Basophils	Hemoglobin
Polys (Absolute)	Hematocrit
Lymphs (Absolute)	MCV
Monocytes (Absolute)	MCH
Eos (Absolute)	MCHC
Baso (Absolute)	Polynucleated Cells
RDW	

BLOOD MINERAL PANEL

Calcium	Sodium
Potassium	Chloride
Phosphorus	Iron

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

24-HOUR URINARY PROFILES NEW

URINARY COMPLUS PANEL (LCM4080)

\$472.50

This 24-hour urinary steroid hormone profile contains a combination of 30 hormones and metabolites. This panel may be used to evaluate bio-identical hormone replacement therapy.

URINARY COMPREHENSIVE PANEL (LCM4001)

\$360

This 24-hour urinary steroid hormone profile contains a combination of 17 hormones and metabolites. This panel may be used to evaluate bio-identical hormone replacement therapy.

URINARY ADRENAL PROFILE (LCM4000)

\$315

This 24-hour urine test measures a combination of 12 steroid hormones and metabolites synthesized by the adrenal cortex and may prove useful in the evaluation of endocrine disorders, stress, adrenal insufficiency, and more.

URINARY ESTROGEN PROFILE (LCM4061)

\$281.25

This 24-hour urinary steroid hormone profile contains a combination of 8 hormones and metabolites. This panel may be used to evaluate bio-identical hormone replacement therapy.

* 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.



MOST POPULAR SINGLE TESTS

Life Extension Member Pricing

HORMONES

- CORTISOL (LC004051)**
This test is to measure adrenal function.
- ADRENOCORTICOTROPIC HORMONE (ACTH)* (LC004440)**
A pituitary function test useful in evaluating adrenocortical dysfunction.
- DHEA-SULFATE (LC004697)**
This test shows if you are taking the proper amount of DHEA. This test normally costs \$100 or more at commercial laboratories.
- DIHYDROTESTOSTERONE (DHT)* (LC500142)**
Measures serum concentrations of DHT.
- ESTRADIOL (LC004515)**
For men and women. Determines the proper amount in the body.
- 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.
- INSULIN FASTING (LC004333)**
Can predict those at risk of diabetes, obesity, and heart and other diseases.
- PREGNENOLONE* (LC140707)**
Used to determine ovarian failure, hirsutism, adrenal carcinoma, and Cushing's syndrome.
- PROGESTERONE (LC004317)**
Primarily for women. Determines the proper amount in the body.
- 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 androgens.
- SOMATOMEDIN C (IGF-1) (LC010363)**
Indicates growth hormone secretion levels. Low levels have been associated with arteriosclerosis as well as all-cause mortality.
- TOTAL AND FREE TESTOSTERONE (LC140103)**
Determines whether testosterone replacement should be considered as a therapy for depression, abdominal obesity, low energy, poor mental performance, or loss of libido.
- URINARY 2/16 ESTROGEN METABOLITE RATIO (LCU73000)**
This ratio is relevant as a risk factor for estrogen-sensitive diseases including breast and cervical cancers, osteoporosis, and recurrent respiratory papillomatosis.

CARDIAC RISK

- Lp-PLA2 (PLAC TEST) (LC141275)**
\$39
NEW \$91
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)**
\$61
Measures inflammation factors in arteries. Recent studies indicate that C-reactive protein may be the most accurate risk factor for predicting heart attack and stroke.
- APOLIPOPROTEIN ASSESSMENT - (APO A1 + APO B + RATIO) (LC216010)**
\$99
\$33
This ratio correlates with risk of coronary artery disease and is useful in the presence of borderline elevations of cholesterol.
- FIBRINOGEN* (LC001610)**
\$47
High levels of this blood-clotting factor increase the risk of heart attack and stroke.
- HOMOCYSTEINE (LC706994)**
\$42
Can indicate if you are likely to have a heart attack or stroke. Even if you take folic acid, you still may have dangerously high levels of this artery-clotting metabolic debris that can be lowered with high doses of TMG and vitamin B6.
- VAP™ TEST (LC804500) (UPDATED)**
\$116
\$55
The VAP cholesterol test provides a more comprehensive coronary heart disease (CHD) risk assessment than the conventional lipid profile. Direct measurements, not estimations, are provided for total cholesterol, LDL, HDL, VLDL, and cholesterol subclasses.
- MALE HEALTH**
PSA (PROSTATE-SPECIFIC ANTIGEN) (LC010322)
\$75
\$33
Can provide an early warning sign for prostate disorders and possible cancer.
- FREE-PSA (INCLUDES TOTAL PSA)* (LC480780)**
\$99
\$55
Recommended to determine if an elevated PSA is indicative of prostate cancer.
- GENERAL HEALTH**
CELIAK DISEASE ANTIBODY SCREEN (LC334971)
\$128
\$99
This test measures deamidated gliadin IgA, tissue transglutaminase IgA, and serum IgA.
- VITAMIN D (25OH) (LC081950)**
\$99
\$47
This test is used to rule out vitamin D deficiency as a cause of bone disease. It can also be used to identify hypercalcemia.
- VITAMIN C* (LC001479)**
\$47
Levels of vitamin C are used to measure nutritional status.
- FOOD SAFE ALLERGY TEST (LCM73001)**
\$174
This test measures delayed (IgG) food allergies for 45 common foods.

**ORDER LIFESAVING
BLOOD TESTS
FROM VIRTUALLY
ANYWHERE IN THE US!**

TERMS AND CONDITIONS

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

Signature of Life Extension Member _____

X _____

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L-Glutamine Capsules
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L-Lysine Powder
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L-Tyrosine Tablets
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DMAE-Ginkgo
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Ginkgo Biloba Certified Extract™
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Phosphatidylserine Capsules
Rhodiola Extract
Super Ginkgo Extract
Vinpocetine

DIGESTIVE

Agave Digestive-Immune Support
Bromelain Powder
Carnosothe w/PicroProtect
Digest RC™
Enhanced Super Digestive Enzymes
(also available with Probiotics)
Florastor
Intact Digest
Life Flora™
Natural Esophaguard
NutraFlora (FOS) Powder
N-Zimes™
Pancreatin
Papain Powder
Primal Defense
Regimint™

DURK AND SANDY PRODUCTS

Blast™
Dual-C
Inner Power™
Memory Upgrade

EYE CARE

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

FIBER

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

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

HERBAL/PHOTO PRODUCTS

Artichoke Leaf Extract
Astaxanthin
Berry Complete
Blackcurrant Juice Concentrate
Blueberry Extract
Blueberry Extract w/Pomegranate
and CocoaGold™
Butterbur Extract w/Standardized
Rosmarinic Acid
Calcium D-Glucarate
Chloroplex
Cilantro Herbal Extract
Citrus Bioflavonoid
CocoaGold™
Grapeseed Extract with Resveratrol &
Pterostilbene
Green Tea Leaves
Hesperidin Complex Powder
Huperzine A with Natural Vitamin E
Kyolic® Garlic Formula 105
Kyolic® Reserve
Lycopene
Mega Green Tea Extract
Mega Green Tea Extract (Decaffeinated)
Mega Lycopene
Mega Silymarin with Isosilybin B
Nutrim
Optimized Ashwagandha Extract
Phyto-Food
Pomegranate Extract
Pomegranate Extract with CocoaGold™
Pomegranate Juice Concentrate
ProGreens®

Pure-Gar™

Pycnogenol
Optimized Quercetin
Resveratrol with Pterostilbene
Rhodiola Extract
Rosmarinic Acid Extract
Rutin Powder
Silymarin
SODzyme™ with GliSODin®
Stevia Extract
Super Bio-Curcumin®
Super Curcumin with Bioperine®
Super Polyphenol Extracts w/CocoaGold™
Super Ginkgo Extract
Triple Action Cruciferous Vegetable Extract
Venotone
Whole Grape Extract

HORMONES

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

IMMUNE ENHANCEMENT

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

INFLAMMATORY REACTIONS

Arthro-Immune Joint Support
ArthroMax™ with Theaflavins
Barlean's Kids DHA
Boswellia
Boswellia™ Topical Cream
Bromelain (Specially-coated)
Coromega Kids Brain and Body (DHA)
DHA 240
Emulsified Norwegian Cod Liver Oil
Fast Acting Joint Formula
Korean Angelica
5-LOXIN®
Mega EPA/DHA
Mega GLA with Sesame Lignans
MSM
Natural Relief 1222™ Cream
PhosphOmega™ Krill Oil
Perilla Oil
Serraflazyme
Shark Cartilage
SODzyme™ with GliSODin® and Wolfberry
Super MaxEPA
Super Omega-3 EPA/DHA with Sesame
Lignans & Olive Fruit Extract
Udo's Choice Oil
Zyflamend Easy

LIVER HEALTH

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

Products

MINERALS

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

MISCELLANEOUS

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

MITOCHONDRIAL SUPPORT

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

MOOD RELIEF

L-Theanine
Natural Stress Relief
Optimized TryptoPure™ Plus
SAMe
St. John's Wort Extract
Tryptopure™ L-Tryptophan

MOUTH CARE

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

MULTIVITAMIN

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

PET CARE

Life Extension Cat Mix
Life Extension Dog Mix

PROSTATE & URINARY HEALTH

BetterWOMAN®
Cran-Max
5-LOXIN®
(Water-Soluble) Pumpkin Seed Extract
Super Saw Palmetto with Beta-Sitosterol

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

SKIN CARE

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

SOY

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

SPECIAL PURPOSE FORMULA

Anti-Alcohol Antioxidants w/HepatoProtection Complex
Benfotiamine w/Thiamine
Breast Health Formula
Butterbur Extract w/Standardized Rosmarinic Acid
Chlorella
Chlorophyllin w/Zinc
CocoaGold w/Beta Glucan
Coriolus Versicolor Super Strength
Enhanced Cinsulin® w/Glucose Management Proprietary Blend
EDTA
(European Leg Solution) Diosmin95
Fem Dophilus
GlucoFit™
Lustre™
Maitake SX-Fraction™
Menopause Solutions
Migra-eeze™
Natural Female Support
Pecta-Sol®
Potassium Iodide

Prelox® Natural Sex for Men®
Pyridoxamine
Rosmarinic Acid Extract

SPORTS PERFORMANCE

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

VITAMINS

Ascorbic Acid Powder
Ascorbyl Palmitate Capsules
Ascorbyl Palmitate Powder
B1
B2
B12
Beta-Carotene
Biotin Capsules
Biotin Powder
Buffered Vitamin C Powder
Calcium Ascorbate Powder
Complete B Complex
Eligen® B12
Folic Acid + B12
Folic Acid powder
Gamma E Tocopherol w/Sesame Lignans
Gamma E Tocopherol/Tocotrienols
Inositol Capsules
Inositol Powder
Liquid Emulsified Vitamin A
Mega Lycopene Extract
Methylcobalamin
MK-7
No-Flush Niacin
Optimized Folate
PABA Capsules
PABA Powder
Super Ascorbate C Capsules
Super Ascorbate C Powder
Super K w/Advanced K2 Complex
Tocotrienols w/Sesame Lignans
Vitamin B1 Powder
Vitamin B2 Powder
Vitamin B3 (Niacin) Capsules
Vitamin B5 Powder
Vitamin B6
Vitamin B12 Powder
Vitamin C
Vitamin D
Vitamin D3
Vitamin D3 w/Sea-Iodine™
Vitamin E Succinate
Vitamin K1

WEIGHT MANAGEMENT

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

Buyers Club Order Form

To order call: 1.954.766.8433 or 1.800.544.4440

No.		Retail	Member Price	Qty	Total
A					
00449	ACETYL-L-CARNITINE - 500 mg, 100 caps	\$56.00	\$42.00		
	ACETYL-L-CARNITINE - 4 bottles of 100 caps	186.64	139.98		
00788	ACETYL-L-CARNITINE ARGINATE - 100 caps	59.00	44.25		
	ACETYL-L-CARNITINE ARGINATE - 4 bottles of 100 caps	203.96	152.97		
01308	ADVANCED LIPID CONTROL - 60 veg. caps	30.00	22.50		
	ADVANCED LIPID CONTROL - 4 bottles of 60 veg. caps	108.00	81.00		
01300	ADVANCED ORAL HYGIENE - 60 veg. mint lozenges	20.00	15.00		
	ADVANCED ORAL HYGIENE - 4 bottles of 60 veg. mint lozenges	72.00	54.00		
01417	AGAVE DIGESTIVE-IMMUNE SUPPORT - 360 grams of powder	30.00	22.50		
	AGAVE DIGESTIVE-IMMUNE SUPPORT - 4 bottles of powder	108.00	81.00		
00681	AHCC - 500 mg, 30 caps	49.98	37.49		
	AHCC - 4 bottles of 30 caps	180.00	135.00		
46925	ALLI® REFILL PACK - 60 mg, 120 caps	69.95	58.00		
00261	ALL-IN-ONE WEIGHT LOSS FORMULA - 300 caps	59.95	44.96		
	ALL-IN-ONE WEIGHT LOSS FORMULA - 2 bottles of 300 caps	110.00	82.50		
	ALL-IN-ONE WEIGHT LOSS FORMULA - 4 bottles of 300 caps	174.00	130.50		
00457	(SUPER) ALPHA-LIPOOIC ACID w/BIOTIN - 250 mg, 60 caps	37.00	27.75		
	(SUPER) ALPHA-LIPOOIC ACID w/BIOTIN - 4 bottles of 60 caps	128.00	96.00		
01420	ANTI-ALCOHOL ANTIOXIDANTS W/HEPATOPRO - 100 caps	18.00	13.50		
	ANTI-ALCOHOL ANTIOXIDANTS W/HEPATOPRO - 4 bottles of 100 caps	64.00	48.00		
00105	APPLE PECTIN POWDER - 8 oz bottle of powder	14.75	11.06		
	APPLE PECTIN POWDER - 4 bottles of powder	55.00	41.25		
01012	ARGININE CAPS - 800 mg, 200 caps	26.50	19.88		
	ARGININE CAPS - 4 bottles of 200 caps	93.00	69.75		
01039	ARGININE/ORNITHINE CAPS - 500/250 mg, 100 caps	16.00	12.00		
	ARGININE/ORNITHINE CAPS - 4 bottles of 100 caps	58.00	43.50		
00038	ARGININE/ORNITHINE POWDER - 150 grams of powder	22.95	17.21		
	ARGININE/ORNITHINE POWDER - 4 bottles of powder	76.00	57.00		
01025	(L)-ARGININE FREE-FORM POWDER - 100 grams of powder	18.50	13.88		
	(L)-ARGININE FREE-FORM POWDER - 4 bottles of powder	67.00	50.25		
00040	(L)-ARGININE HCL - 1 kilogram of powder	118.00	88.50		
	(L)-ARGININE HCL - 4 bottles of powder	432.00	324.00		
01303	ARTHROMAX™ w/THEAFLAVINS - 120 veg. caps	44.00	33.00		
	ARTHROMAX™ w/THEAFLAVINS - 4 bottles of 120 veg. caps	160.00	120.00		
01404	ARTHRO-IMMUNE JOINT SUPPORT - 60 veg. caps	30.00	22.50		
	ARTHRO-IMMUNE JOINT SUPPORT - 4 bottles of 60 veg. caps	108.00	81.00		
00919	ARTICHOKE LEAF EXTRACT - 500 mg, 180 veg. caps	28.00	21.00		
	ARTICHOKE LEAF EXTRACT - 4 bottles of 180 veg. caps	101.52	76.14		
00086	(SUPER) ASCORBATE C POWDER - 8 oz of powder	24.95	18.71		
	(SUPER) ASCORBATE C POWDER - 4 bottles of powder	92.52	69.39		
00080	ASCORBIC ACID POWDER - 16 oz of powder vitamin C	38.00	28.50		
	ASCORBIC ACID POWDER - 4 bottles of powder vitamin C	139.72	104.79		
00082	ASCORBYL PALMITATE CAPSULES - 500 mg, 100 caps	22.50	16.88		
	ASCORBYL PALMITATE CAPSULES - 4 bottles of 100 caps	80.00	60.00		
00083	ASCORBYL PALMITATE POWDER - 100 grams of powder	32.00	24.00		
	ASCORBYL PALMITATE POWDER - 4 bottles of powder	120.00	90.00		
00888	(OPTIMIZED) ASHWAGANDHA EXTRACT - 60 veg. caps	10.00	7.50		
	(OPTIMIZED) ASHWAGANDHA EXTRACT - 4 bottles of 60 veg. caps	36.00	27.00		
00892	(LOW DOSE) ASPIRIN ENTERIC COATED - 81 mg, 500 tablets	10.00	7.50		
	(LOW DOSE) ASPIRIN ENTERIC COATED - 4 bottles of 500 tablets	36.00	27.00		
00708	ASTAXANTHIN - 2 mg, 30 softgels	9.98	7.49		

SUB-TOTAL OF COLUMN 1

MARCH 2010

* These products are not 25% off retail price.

No.		Retail	Member Price	Qty	Total
B					
01040	BELLY SLIM & TONE - 6 fl oz	\$42.00	\$31.50		
	BELLY SLIM & TONE - 4 bottles of 6 fl oz	152.00	114.00		
00920	BENFOTIAMINE W/ THIAMINE - 100 mg, 120 caps	19.95	14.96		
	BENFOTIAMINE W/ THIAMINE - 4 bottles of 120 caps	74.40	55.80		
00925	(MEGA) BENFOTIAMINE - 250 mg, 120 veg. caps	30.00	22.50		
	(MEGA) BENFOTIAMINE - 4 bottles of 120 veg. caps	108.00	81.00		
01206	BERRY COMPLETE - 30 veg. caps	21.00	15.75		
	BERRY COMPLETE - 4 bottles of veg. caps	74.68	56.00		
00664	BETA-CAROTENE - 25,000 IU, 100 softgels	10.50	7.88		
	BETA-CAROTENE - 4 bottles of 100 softgels	38.00	28.50		
00088	BETA-CAROTENE POWDER - 100 grams of powder	27.00	20.25		
	BETA-CAROTENE POWDER - 4 bottles of powder	100.00	75.00		
00653	BETTERWOMAN - 40 caps	40.00	30.00		
	BETTERWOMAN - 4 bottles of 40 caps	152.00	114.00		
00497	BILBERRY EXTRACT - 100 mg, 100 caps	28.00	21.00		
	BILBERRY EXTRACT - 4 bottles of 100 caps	100.00	75.00		
*01006	BIOSIL™ - 5 mg, 30 veg. caps	18.95	15.16		
*01007	BIOSIL™ - 30 fl ml	29.99	23.99		
00102	BIOTIN CAPSULES - 600 mcg, 100 caps	7.50	5.63		
	BIOTIN CAPSULES - 4 bottles of 100 caps	26.00	19.50		
00145	BIOTIN POWDER - 30 grams of powder	12.50	9.38		
	BIOTIN POWDER - 4 bottles of powder	44.00	33.00		
01037	BLACKCURRANT FREEZE DRIED EXTRACT - 60 veg. caps	21.95	16.46		
01034	BLACKCURRANT JUICE CONCENTRATE - 12 fl. oz	17.95	13.46		
01008	BLAST™ - 600 grams of powder	26.95	20.21		
70000	BLOOD PRESSURE MONITOR-ARM CUFF (medium)	99.95	64.97		
70001	BLOOD PRESSURE MONITOR-WRIST (travel size)	69.95	45.47		
01214	BLUEBERRY EXTRACT - 60 veg. caps	22.50	16.88		
	BLUEBERRY EXTRACT - 4 bottles of 60 veg. caps	80.00	60.00		
01338	BLUEBERRY EXTRACT w/POMEGRANATE & COCOAGOLD™ - 60 veg. caps	30.00	22.50		
	BLUEBERRY EXTRACT w/POMEGRANATE & COCOAGOLD™ - 4 bottles of 60 veg. caps	108.00	81.00		
00811	BONE RESTORE - 150 caps	22.50	16.88		
	BONE RESTORE - 4 bottles of 150 caps	78.00	58.50		
01211	BONE STRENGTH FORMULA w/KOACT™ - 120 caps	42.00	31.50		
	BONE STRENGTH FORMULA w/KOACT™ - 4 bottles of 120 caps	152.00	114.00		
00313	BONE-UP® - 240 caps (hydroxyapatite complex)	24.95	18.71		
	BONE-UP® - 4 bottles of 240 caps	90.00	67.50		
01079	BOOSTER - 60 softgels	48.00	36.00		
	BOOSTER - 4 bottles of 60 softgels	176.00	132.00		
01380	(SUPER) BOOSTER w/ADVANCED K2 COMPLEX - 60 softgels	42.00	31.50		
	(SUPER) BOOSTER w/ADVANCED K2 COMPLEX - 4 bottles of 60 softgels	152.00	114.00		
00621	BORON CAPS - 3 mg, 100 caps	5.95	4.46		
	BORON CAPS - 4 bottles of 100 caps	21.00	15.75		
00202	BOSWELLA - 100 caps	38.00	28.50		
	BOSWELLA - 4 bottles of 100 caps	120.00	90.00		
00258	BOSWELLA TOPICAL CREAM - 4 oz jar	15.00	11.25		
	BOSWELLA TOPICAL CREAM - 4 jars	52.00	39.00		
00253	BRANCHED CHAIN AMINO ACIDS - 90 caps	19.50	14.63		
	BRANCHED CHAIN AMINO ACIDS - 4 bottles of 90 caps	68.00	51.00		
00999	BREAST HEALTH FORMULA - 60 veg. caps	34.00	25.50		
	BREAST HEALTH FORMULA - 4 bottles of 60 veg. caps	120.00	90.00		
00893	BRITE EYES III - 2 vials, 5 ml each	34.00	25.50		
	BRITE EYES III - 4 boxes	128.00	96.00		

SUB-TOTAL OF COLUMN 2

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

To order online visit: www.lifeextension.com

Buyers Club Order Form

No.		Retail	Member Price	Qty	Total
00136	BROMELAIN POWDER - 100 grams of powder	\$21.00	\$15.75		
	BROMELAIN POWDER - 4 bottles of powder	75.00	56.25		
01203	(SPECIALY COATED) BROMELAIN - 500 mg, 60 enteric coated tablets	21.00	15.75		
	(SPECIALY COATED) BROMELAIN - 4 bottles of 60 tablets	76.00	57.00		
00884	BUTTERBUR EXT. W/ STANDARDIZED ROSMARINIC ACID - 60 softgels	44.00	33.00		
	BUTTERBUR EXT. W/ STANDARDIZED ROSMARINIC ACID - 4 bottles of 60 softgels	158.40	118.80		

C

No.		Retail	Member Price	Qty	Total
00146	CALCIUM ASCORBATE POWDER - 300 grams of powder	\$24.00	\$18.00		
	CALCIUM ASCORBATE POWDER - 4 bottles of powder	88.00	66.00		
00058	CALCIUM CARBONATE POWDER - 1 kilogram of powder	13.95	10.46		
	CALCIUM CARBONATE POWDER - 4 bottles of powder	52.00	39.00		
01015	CALCIUM CITRATE - 300 caps	24.00	18.00		
	CALCIUM CITRATE - 4 bottles of 300 caps	85.00	63.75		
00535	CALCIUM D-GLUCARATE - 200 mg, 60 caps	18.00	13.50		
	CALCIUM D-GLUCARATE - 4 bottles of 60 caps	60.00	45.00		
00149	CALCIUM/MAGNESIUM POWDER - 1 kilogram of powder	21.00	15.75		
	CALCIUM/MAGNESIUM POWDER - 4 bottles of powder	75.00	56.25		
01419	CALORIE RESTRICTION MIMETIC FORMULA - 60 veg. caps	36.00	27.00		
	CALORIE RESTRICTION MIMETIC FORMULA - 4 bottles of 60 veg. caps	132.00	99.00		
00118	CAPSULE FILLER MACHINE FOR "0" CAPSULES	12.00	9.00		
	CAPSULE FILLER MACHINE FOR "0" CAPSULES - 4 machines	45.00	33.75		
00613	CAPSULE FILLER MACHINE FOR "0" CAPSULES	12.00	9.00		
	CAPSULE FILLER MACHINE FOR "0" CAPSULES - 4 machines	45.00	33.75		
00916	(OPTIMIZED) CARNITINE w/ GLYCOCARN® - 60 veg. caps	29.00	21.75		
	(OPTIMIZED) CARNITINE w/ GLYCOCARN® - 4 bottles of 60 veg. caps	104.40	78.30		
01041	L-CARNITINE CAPSULES - 500 mg, 30 caps	15.00	11.25		
	L-CARNITINE CAPSULES - 4 bottles of 30 caps	52.80	39.60		
00051	L-CARNITINE POWDER - 100 grams of powder	85.00	63.75		
	L-CARNITINE POWDER - 4 bottles of powder	295.00	221.25		
01258	CARNOSOOTH w/ PICROPROTECT™ - 60 veg. caps	29.95	22.46		
	CARNOSOOTH w/ PICROPROTECT™ - 4 bottles of 60 veg. caps	108.00	81.00		
01287	(SUPER) CARNOSINE CAPS - 500 mg, 90 caps	66.00	49.50		
	(SUPER) CARNOSINE CAPS - 4 bottles of 90 caps	240.00	180.00		
01011	CELLULITE SUPPRESS™ FORMULA - 6 fl. oz	58.00	43.50		
	CELLULITE SUPPRESS™ FORMULA - 4-6oz bottles	208.00	156.00		
00390	CDP CHOLINE CAPS - 250 mg, 60 caps	36.00	27.00		
	CDP CHOLINE CAPS - 4 bottles of 60 caps	136.00	102.00		
00998	CELL SENSOR-EMF DETECTION/MEASUREMENT METER	39.95	29.95		
01370	CHILDREN'S FORMULA MIX - 100 chewable tablets	18.00	13.50		
	CHILDREN'S FORMULA MIX - 4 bottles of 100 chewable tablets	64.00	48.00		
00216	CHITOSAN - 250 mg, 180 caps	28.00	21.00		
	CHITOSAN - 4 bottles of 180 caps	100.00	75.00		
	CHITOSAN - 10 bottles of 180 caps	230.00	172.50		
00369	CHITOSAN - 500 mg, 180 caps	55.00	41.25		
	CHITOSAN - 4 bottles of 180 caps	200.00	150.00		
00550	CHLORELLA - 500 mg, 200 tablets	23.50	17.63		
	CHLORELLA - 4 bottles of 200 tablets	84.00	63.00		
01048	CHLOROPHYLLIN w/ZINC - 100 mg, 100 caps	24.00	18.00		
	CHLOROPHYLLIN w/ZINC - 4 bottles of 100 caps	80.00	60.00		
01045	CHLOROPLEX - 100 caps	28.00	21.00		
	CHLOROPLEX - 4 bottles of 100 caps	98.00	73.50		
	CHLOROPLEX - 12 bottles of 100 caps	256.00	192.00		
00142	CHO-LESS - 90 capsules	32.50	24.38		
00142	CHOLINE BITARTRATE - 300 grams of powder	17.75	13.31		
	CHOLINE BITARTRATE - 4 bottles of powder	64.00	48.00		

SUB-TOTAL OF COLUMN 3

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

No.		Retail	Member Price	Qty	Total
00541	CHOLINE CHLORIDE - 16 oz liquid		\$14.95	\$11.21	
	CHOLINE CHLORIDE - 4 bottles of 16 oz liquid		56.00	42.00	
00364	CHONDROITIN SULFATE - 400 mg, 60 tablets		19.95	14.96	
	CHONDROITIN SULFATE - 4 bottles of 60 tablets		72.00	54.00	
00169	CHROMIUM - 200 mcg polynicotinate, 365 caps		28.00	21.00	
	CHROMIUM - 4 bottles of 365 caps		104.00	78.00	
01071	CHROMIUM ULTRA - 100 veg. caps		24.00	18.00	
	CHROMIUM ULTRA - 4 bottles of 100 veg. caps		84.00	63.00	
00551	CILANTRO HERBAL EXTRACT - 1 oz		12.00	9.00	
	CILANTRO HERBAL EXTRACT - 4 bottles of 1oz		44.00	33.00	
01267	(ENHANCED) CINSULIN® W/ GLUCOSE MGMT PROP BLEND - 90 veg. caps		32.00	24.00	
	(ENHANCED) CINSULIN® W/ GLUCOSE MGMT PROP BLEND - 4 bottles of 90 veg. caps		120.00	90.00	
00223	CITRICHROME - 90 caps		22.95	17.21	
	CITRICHROME - 4 bottles of 90 caps		80.00	60.00	
00069	CITRUS BIOFLAVONOID - 100 caps		14.95	11.21	
	CITRUS BIOFLAVONOID - 4 bottles of 100 caps		56.00	42.00	
00818	(SUPER) CLA BLEND W/ SESAME LIGNANS - 1000 mg, 120 softgels		36.00	27.00	
	(SUPER) CLA BLEND W/ SESAME LIGNANS - 4 bottles of 120 softgels		132.00	99.00	
	(SUPER) CLA BLEND W/ SESAME LIGNANS - 10 bottles, 120 softgels		263.30	197.48	
00819	(SUPER) CLA BLEND W/ GUARANA & SESAME - 120 softgels		42.00	31.50	
	(SUPER) CLA BLEND W/ GUARANA & SESAME - 4 btl of 120 softgels		153.32	114.99	
00863	COCOAGOLD™ - 130 mg, 60 veg. caps		12.50	9.38	
	COCOAGOLD™ - 4 bottles of 60 veg. caps		44.00	33.00	
01285	COCOAGOLD™ W/ BETA-GLUCAN POWDER - 180 grams		20.00	15.00	
	COCOAGOLD™ W/ BETA-GLUCAN POWDER - 4 jars of 180 grams		72.00	54.00	
00050	COD LIVER OIL - 12 fl oz (355 ml) (Emulsified)		9.50	7.13	
	COD LIVER OIL - 4 bottles of 12 fl oz (355 ml)		32.00	24.00	
00293	COD LIVER OIL - 100 softgels (Emulsified)		9.95	7.46	
	COD LIVER OIL - 4 bottles of 100 softgels		37.52	28.14	
00922	COGNITEX W/ PREGNENOLONE & NEUROPROTECTION COMPLEX - 90 softgels		74.00	55.50	
	COGNITEX W/ PREGNENOLONE & NEUROPROTECTION COMPLEX - 4 btl of 90 softgels		266.40	199.80	
	COGNITEX W/ PREGNENOLONE & NEUROPROTECTION COMPLEX - 12 btl of 90 softgels		768.00	576.00	
00921	COGNITEX W/ O PREGNENOLONE & NEUROPROTECTION COMPLEX - 90 softgels		72.00	54.00	
	COGNITEX W/ O PREGNENOLONE & NEUROPROTECTION COMPLEX - 4 bottles of 90 softgels		256.00	192.00	
	COGNITEX W/ O PREGNENOLONE & NEUROPROTECTION COMPLEX - 12 bottles of 90 softgels		744.00	558.00	
00110	COMPLETE B-COMPLEX - 180 caps		21.50	16.13	
	COMPLETE B-COMPLEX - 4 bottles of 180 caps		72.00	54.00	
01325	COMPREHENSIVE NUTRIENT PACK - 30-day supply		189.00	141.75	
	COMPREHENSIVE NUTRIENT PACK - 120-day supply		684.00	513.00	
00119	COPPER CAPSULES - 2 mg, 100 caps		8.95	6.71	
	COPPER CAPSULES - 4 bottles of 100 caps		32.36	24.27	
00208	(ENHANCED) COQ10 (with Brewer's Yeast) - 30 mg, 100 caps		32.00	24.00	
	(ENHANCED) COQ10 (with Brewer's Yeast) - 4 bottles of 100 caps		108.00	81.00	
	(ENHANCED) COQ10 (with Brewer's Yeast) - 10 bottles of 100 caps		245.00	183.75	
00949	(SUPER ABSORBABLE) COQ10™ W/ d-LIMONENE - 50 mg, 60 softgels		28.50	21.38	
	(SUPER ABSORBABLE) COQ10™ W/ d-LIMONENE - 4 bottles of 60 softgels		99.00	74.25	
	(SUPER ABSORBABLE) COQ10™ W/ d-LIMONENE - 10 bottles of 60 softgels		230.00	172.50	
00950	(SUPER ABSORBABLE) COQ10™ W/ d-LIMONENE - 100 mg, 100 softgels		73.00	54.75	
	(SUPER ABSORBABLE) COQ10™ W/ d-LIMONENE - 4 bottles of 100 softgels		260.00	195.00	
	(SUPER ABSORBABLE) COQ10™ W/ d-LIMONENE - 10 bottles of 100 softgels		620.00	465.00	

SUB-TOTAL OF COLUMN 4

MARCH 2010

Buyers Club Order Form

To order call: 1.954.766.8433 or 1.800.544.4440

No.		Retail	Member Price	Qty	Total
C CONTINUED					
01226	(SUPER UBIQUINOL) COQ10 - 100 mg, 60 softgels	\$62.00	\$46.50		
	(SUPER UBIQUINOL) COQ10 - 4 bot of 60 softgels	224.00	168.00		
	(SUPER UBIQUINOL) COQ10 - 10 bot of 60 softgels	520.00	390.00		
01426	(SUPER UBIQUINOL) COQ10 w/ENH MITOCHONDRIAL SUPPORT™ - 100 mg, 60 softgels	62.00	46.50		
	(SUPER UBIQUINOL) COQ10 w/ENH MITOCHONDRIAL SUPPORT™ - 4 bot of 60 softgels	224.00	168.00		
	(SUPER UBIQUINOL) COQ10 w/ENH MITOCHONDRIAL SUPPORT™ - 10 bot of 60 softgels	520.00	390.00		
01425	(SUPER UBIQUINOL) COQ10 w/ENH MITOCHONDRIAL SUPPORT™ - 50 mg, 100 softgels	58.00	43.50		
	(SUPER UBIQUINOL) COQ10 w/ENH MITOCHONDRIAL SUPPORT™ - 4 bot of 100 softgels	212.00	159.00		
	(SUPER UBIQUINOL) COQ10 w/ENH MITOCHONDRIAL SUPPORT™ - 10 bot of 100 softgels	500.00	375.00		
01427	(SUPER UBIQUINOL) COQ10 w/ENH MITOCHONDRIAL SUPPORT™ - 50 mg, 30 softgels	20.00	15.00		
	(SUPER UBIQUINOL) COQ10 w/ENH MITOCHONDRIAL SUPPORT™ - 4 bot of 30 softgels	72.00	54.00		
01053	CORIOLUS VERSICOLOR SUPER STRENGTH - 600 mg, 150 caps	99.95	74.96		
00857	COROMEGA CHILD BRAIN & BODY - (Lemon Lime) 30 packets	25.00	18.75		
	COROMEGA CHILD BRAIN & BODY - (Lemon Lime) 4 boxes of 30 packets	90.00	67.00		
80118	COSMESIS ANTI-AGING MASK - 2 oz bottle	66.60	49.95		
	COSMESIS ANTI-AGING MASK - 2-2 oz bottles	117.22	87.92		
80134	COSMESIS ANTI-GLYCATION SERUM - 1 oz bottle w/BLUEBERRY & POMEGRANATE EXTRACTS	24.00	18.00		
	COSMESIS ANTI-GLYCATION SERUM - 2-1 oz bottles w/BLUEBERRY & POMEGRANATE EXTRACTS	45.60	34.20		
80133	COSMESIS ANTI-OXIDANT FACIAL MIST - 2 oz bottle	29.95	22.46		
	COSMESIS ANTI-OXIDANT FACIAL MIST - 2-2 oz bottles	56.90	42.68		
80132	COSMESIS ANTI-OXIDANT FACIAL MIST - 4 oz bottle	39.95	29.96		
	COSMESIS ANTI-OXIDANT FACIAL MIST - 2-4 oz bottles	76.00	57.00		
80127	COSMESIS ANTI-OXIDANT REJUVENATING FOOT CREAM - 2 oz jar	39.95	29.96		
	COSMESIS ANTI-OXIDANT REJUVENATING FOOT CREAM - 2-2 oz jar	76.00	57.00		
80128	COSMESIS ANTI-OXIDANT REJUVENATING FOOT SCRUB - 2 oz jar	52.95	39.71		
	COSMESIS ANTI-OXIDANT REJUVENATING FOOT SCRUB - 2-2 oz jar	93.20	69.90		
80117	COSMESIS ANTI-OXIDANT REJUVENATING HAND CREAM - 2 oz jar	59.00	44.25		
	COSMESIS ANTI-OXIDANT REJUVENATING HAND CREAM - 2-2 oz jars	106.00	79.50		
80121	COSMESIS ANTI-OXIDANT REJUVENATING HAND SCRUB - 2 oz jar	52.95	39.71		
	COSMESIS ANTI-OXIDANT REJUVENATING HAND SCRUB - 2-2 oz jars	93.20	69.90		
80105	COSMESIS ANTI-REDNESS & BLEMISH LOTION - 1 oz	69.95	52.46		
	COSMESIS ANTI-REDNESS & BLEMISH LOTION - 2-1 oz bottles	123.12	92.34		
80120	COSMESIS CORRECTIVE CLEARING MASK - 2 oz jar	59.95	44.96		
	COSMESIS CORRECTIVE CLEARING MASK - 2-2 oz jars	105.52	79.14		
80108	COSMESIS ESSENTIAL PLANT LIPIDS REPARATIVE SERUM - 1 oz	71.60	53.70		
	COSMESIS ESSENTIAL PLANT LIPIDS REPARATIVE SERUM - 2-1 oz bottles	126.00	94.50		
80123	COSMESIS FACE REJUVENATING ANTIOXIDANT CREAM - 2 oz jar	65.00	48.75		
	COSMESIS FACE REJUVENATING ANTIOXIDANT CREAM - 2-2 oz jars	114.40	85.80		
80107	COSMESIS FINE LINE-LESS - 1 oz	69.95	52.46		
	COSMESIS FINE LINE-LESS - 2-1 oz bottles	123.12	92.34		
80131	COSMESIS HAIR SUPPRESS FORMULA - 4 oz bottle	53.75	40.31		
	COSMESIS HAIR SUPPRESS FORMULA - 2-4 oz bottles	94.60	70.95		
80115	COSMESIS HEALING MASK - 2 oz bottle	59.95	44.96		
	COSMESIS HEALING MASK - 2-2 oz bottles	105.52	79.14		
80109	COSMESIS HYALURONIC FACIAL MOISTURIZER - 1 oz	52.95	39.71		
	COSMESIS HYALURONIC FACIAL MOISTURIZER - 2 bottles of 1 oz	93.20	69.90		
80110	COSMESIS HYALURONIC OIL-FREE FACIAL MOISTURIZER - 1 oz	52.95	39.71		
	COSMESIS HYALURONIC OIL-FREE FACIAL MOISTURIZER - 2 btl of 1 oz	93.20	69.90		
80103	COSMESIS LIFTING & TIGHTENING COMPLEX - 1 oz	69.95	52.46		
	COSMESIS LIFTING & TIGHTENING COMPLEX - 2 bottles of 1 oz	123.12	92.34		

SUB-TOTAL OF COLUMN 5

MARCH 2010

No.		Retail	Member Price	Qty	Total
D					
80114	COSMESIS MILD FACIAL CLEANSER - 8 oz	\$52.95	\$39.71		
	COSMESIS MILD FACIAL CLEANSER - 2 bottles of 8 oz	93.20	69.90		
80122	COSMESIS NECK REJUVENATING ANTIOXIDANT CREAM - 2 oz jar	59.00	44.25		
	COSMESIS NECK REJUVENATING ANTIOXIDANT CREAM - 2-2 oz jars	106.00	79.50		
80119	COSMESIS PEEL OFF CLEANSING MASK - 2 oz bottle	59.95	44.96		
	COSMESIS PEEL OFF CLEANSING MASK - 2-2 oz bottles	105.52	79.14		
80111	COSMESIS PIGMENT CORRECTING CREAM - 1/2 oz	69.95	52.46		
	COSMESIS PIGMENT CORRECTING CREAM - 2 bottles of 1/2 oz	123.12	92.34		
80106	COSMESIS REJUVENATING SERUM - 1 oz	69.95	52.46		
	COSMESIS REJUVENATING SERUM - 2 bottles of 1 oz	123.12	92.34		
80112	COSMESIS SKIN LIGHTENING SERUM - 1/2 oz	79.95	59.96		
	COSMESIS SKIN LIGHTENING SERUM - 2 bottles of 1/2 oz	140.72	105.54		
80130	COSMESIS SKIN STEM CELL SERUM - 1 oz	69.00	51.75		
	COSMESIS SKIN STEM CELL SERUM - 2 bottles of 1 oz	128.00	96.00		
80116	COSMESIS ULTRA LIP PLUMPER - 1/3 oz	59.95	44.96		
	COSMESIS ULTRA LIP PLUMPER - 2 bottles of 1/3 oz	105.52	79.14		
80101	COSMESIS ULTRA WRINKLE RELAXER - 1 oz	89.95	67.46		
	COSMESIS ULTRA WRINKLE RELAXER - 2 bottles of 1 oz	159.52	119.64		
80113	COSMESIS UNDER EYE REFINING SERUM - 1/2 oz	69.95	52.46		
	COSMESIS UNDER EYE REFINING SERUM - 2 bottles of 1/2 oz	123.12	92.34		
80104	COSMESIS UNDER EYE RESCUE CREAM - 1/2 oz	69.95	52.46		
	COSMESIS UNDER EYE RESCUE CREAM - 2 bottles of 1/2 oz	123.12	92.34		
80129	COSMESIS VITAMIN C SERUM - 1 oz bottle	79.95	59.96		
	COSMESIS VITAMIN C SERUM - 2-1 oz bottles	140.72	105.54		
80102	COSMESIS VITAMIN K HEALING CREAM - 1 oz	74.95	56.21		
	COSMESIS VITAMIN K HEALING CREAM - 2 bottles of 1 oz	131.92	98.94		
00862	CRAN-MAX® - 500 mg, 60 veg. caps	17.50	13.13		
	CRAN-MAX® - 4 bottles of 60 veg. caps	60.00	45.00		
00609	CREATINE CAPS MICRONIZED - 120 caps	10.95	8.21		
	CREATINE CAPS MICRONIZED - 4 bottles of 120 caps	37.00	27.75		
00610	CREATINE POWDER MICRONIZED - 500 grams of powder	29.00	21.75		
	CREATINE POWDER MICRONIZED - 4 bottles of powder	106.52	79.89		
01096	CREATINE-WHEY-GLUTAMINE POWDER - 1 kg vanilla	45.00	33.75		
	CREATINE-WHEY-GLUTAMINE POWDER - 4 bottles of powder	168.00	126.00		
00912	(SUPER) CURCUMIN W/BOPERINE® - 800 mg, 60 caps	20.75	15.56		
	(SUPER) CURCUMIN W/BOPERINE® - 4 bottles of 60 caps	74.72	56.04		
00407	(SUPER BIO) CURCUMIN® - 400 mg, 60 veg. caps	30.00	22.50		
	(SUPER BIO) CURCUMIN® - 4 bottles of 60 veg. caps	106.00	79.50		
00126	CYSTEINE ANHYDROUS POWDER - 300 grams of powder	28.50	21.38		
	CYSTEINE ANHYDROUS POWDER - 4 bottles of powder	105.00	78.75		
00064	(L) CYSTEINE CAPSULES - 500 mg, 60 caps	15.95	11.96		
	(L) CYSTEINE CAPSULES - 4 bottles of 60 caps	56.00	42.00		
D					
01313	DERMA WHEY - 400 mg, 60 caps	\$65.00	\$48.75		
	DERMA WHEY - 4 bottles of 60 caps	236.00	177.00		
00856	(BARLEAN'S KID'S) DHA (Fruit Punch Flavor)- 8 fl. oz	22.00	16.50		
	(BARLEAN'S KID'S) DHA (Fruit Punch Flavor)- 4 bottles of 8 fl. oz	80.00	60.00		
00995	DHA 240 - 240 mg, 60 softgels	19.00	14.25		
	DHA 240 - 4 bottles of 60 softgels	68.00	51.00		
00658	7-KETO® DHEA METABOLITE - 25 mg, 100 caps	28.00	21.00		
	7-KETO® DHEA METABOLITE - 4 bottles of 100 caps	96.00	72.00		
01271	7-KETO® DHEA METABOLITE - 100 mg, 60 veg. caps	40.00	30.00		
	7-KETO® DHEA METABOLITE - 4 bottles of 60 veg. caps	144.00	108.00		
00607	DHEA - 25 mg dissolve in mouth 100 tablets pharmaceutical-grade	14.00	10.50		
	DHEA - 4 bottles of 100 tablets pharmaceutical-grade	47.00	35.25		
SUB-TOTAL OF COLUMN 6					

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

Buyers Club Order Form

No.		Retail	Member Price	Qty	Total
01250	DHEA COMPLETE - 60 veg. caps	\$48.00	\$36.00		
	DHEA COMPLETE - 4 bottles of 60 veg. caps	172.80	129.60		
00335	DHEA - 25 mg, 100 caps	15.00	11.25		
	DHEA - 4 bottles of 100 caps	50.00	37.50		
00454	DHEA - 15 mg, 100 caps	12.00	9.00		
	DHEA - 4 bottles of 100 caps	40.00	30.00		
00882	DHEA - 50 mg, 60 caps	16.00	12.00		
	DHEA - 4 bottles of 60 caps	56.00	42.00		
00883	DHEA - 100 mg, 60 caps	22.50	16.88		
	DHEA - 4 bottles of 60 caps	76.00	57.00		
01058	DHEA SKIN CREME - 1.7 oz pump	29.99	22.49		
01358	DIGEST RC - 30 tablets	19.95	14.96		
	DIGEST RC - 4 boxes of 30 tablets	68.00	51.00		
01272	(ENHANCED SUPER) DIGESTIVE ENZYMES - 100 veg. caps	18.95	14.21		
	(ENHANCED SUPER) DIGESTIVE ENZYMES - 4 bottles of 100 veg. caps	64.00	48.00		
01273	(ENHANCED SUPER) DIGESTIVE ENZYMES w/PROBIOTICS - 100 veg. caps	24.00	18.00		
	(ENHANCED SUPER) DIGESTIVE ENZYMES w/PROBIOTICS - 4 bottles of 100 veg. caps	88.00	66.00		
00114	DILAURYL THIODIPROPIONATE POWDER - 100 grams of powder	22.00	16.50		
	DILAURYL THIODIPROPIONATE POWDER - 4 bottles of powder	80.00	60.00		
**01042	(EUROPEAN LEG SOLUTION) DIOSMIN95 - 600 mg, 30 veg. tabs	20.00	15.00		
	(EUROPEAN LEG SOLUTION) DIOSMIN95 - 4 bottles of 30 veg. tabs	72.00	54.00		
00034	D,L-PHENYLALANINE CAPSULES - 500 mg, 100 caps	18.75	14.06		
	D,L-PHENYLALANINE CAPSULES - 4 bottles of 100 caps	64.00	48.00		
00033	D,L-PHENYLALANINE PLUS POWDER - 100 grams of powder	26.00	19.50		
	D,L-PHENYLALANINE PLUS POWDER - 4 bottles of powder	86.00	64.50		
00257	DMAE BITARTRATE - 150 mg, 200 caps	14.00	10.50		
	DMAE BITARTRATE - 4 bottles of 200 caps	42.00	31.50		
00022	DMAE POWDER (37% DMAE) - 100 grams of powder	24.00	18.00		
	DMAE POWDER (37% DMAE) - 4 bottles of powder	80.00	60.00		
00197	DMAE-GINKGO CAPSULES - 100 caps	36.00	27.00		
	DMAE-GINKGO CAPSULES - 4 bottles of 100 caps	120.00	90.00		
	DMAE-GINKGO CAPSULES - 8 bottles of 100 caps	220.00	165.00		
00059	DMG - 125 mg dimethylglycine, 60 tablets	18.50	13.88		
	DMG - 4 boxes of 60 tablets	68.00	51.00		
01052	DNA PROTECTION FORMULA - 60 veg. caps	28.00	21.00		
	DNA PROTECTION FORMULA - 4 bottles of 60 veg. caps	100.80	75.60		
00321	DR. PROCTOR'S ADVANCED HAIR FORMULA - 2 oz	39.95	29.96		
	DR. PROCTOR'S ADVANCED HAIR FORMULA - 4 bottles	128.00	96.00		
00320	DR. PROCTOR'S HAIR FORMULA SHAMPOO - 8 oz bottle	24.95	18.71		
	DR. PROCTOR'S HAIR FORMULA SHAMPOO - 4 bottles	88.00	66.00		
00376	DR. TUNG'S TONGUE CLEANER	8.45	6.34		
	DR. TUNG'S TONGUE CLEANERS - 4 quantity	32.20	24.15		
00899	DUAL-ACTION MICRODERMABRASION ADV. EXFOLIATE - 2.4 net oz jar	39.95	29.96		
	DUAL-ACTION MICRODERMABRASION ADV. EXFOLIATE - 4 jars of 2.4 net oz	155.80	116.85		
00240	DUAL-C - 90 caps	12.00	9.00		
	DUAL-C - 4 bottles of 90 caps	42.00	31.50		
E					
00388	ECHINACEA - 250 mg, 60 caps	\$14.35	\$10.76		
	ECHINACEA - 4 bottles of 60 caps	50.00	37.50		
01024	EDTA - 500 mg, 100 caps	17.50	13.13		
01403	ELIGEN® B12 - 100 mcg 30 veg tablets	28.00	21.00		
	ELIGEN® B12 - 4 bottles of 30 veg tablets	100.00	75.00		

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

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

† Member pricing not valid on this item.

SUB-TOTAL OF COLUMN 7

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

No.		Retail	Member Price	Qty	Total
01297	ENDOTHELIAL DEFENSE™ w/GLISODIN® and COCOAGOLD™ - 60 veg. caps	\$54.00	\$40.50		
	ENDOTHELIAL DEFENSE™ w/GLISODIN® AND COCOAGOLD™ - 4 bottles of 60 veg. caps	192.00	144.00		
00625	(MEGA) EPA/DHA - 120 softgels	19.95	14.96		
	(MEGA) EPA/DHA - 4 bottles of 120 softgels	72.00	54.00		
F					
†01054	FACE MASTER® PLATINUM	\$199.00	\$199.00		
00965	FAST-ACTING JOINT FORMULA - 30 caps	39.00	29.25		
	FAST-ACTING JOINT FORMULA - 4 bottles of 30 caps	144.00	108.00		
20053	FEM DOPHILUS® - 30 caps	24.95	18.71		
20055	FEM DOPHILUS® - 60 caps	35.95	26.96		
*01311	(ENHANCED) FERNBLOCK® w/SENDARA™ - 30 veg. caps	39.00	29.25		
	(ENHANCED) FERNBLOCK® w/SENDARA™ - 4 bottles of 30 veg. caps	140.00	105.00		
00229	FIBER FOOD CAPS - 200 caps	15.00	11.25		
	FIBER FOOD CAPS - 4 bottles of 200 caps	50.00	37.50		
	FIBER FOOD CAPS - 10 bottles of 200 caps	119.00	89.25		
00228	FIBER FOOD - 300 grams of powder	15.00	11.25		
	FIBER FOOD - 4 bottles of powder	50.00	37.50		
	FIBER FOOD - 10 bottles of powder	119.00	89.25		
01307	(ENHANCED) FIBER FOOD POWDER - 453 grams of powder	34.00	25.50		
	(ENHANCED) FIBER FOOD POWDER - 4 jars of powder	120.00	90.00		
00718	FIBRINOGEN RESIST FORMULA (NATTOKINASE) - 30 veg. caps	49.00	36.75		
	FIBRINOGEN RESIST FORMULA (NATTOKINASE) - 4 bottles of 30 caps	176.00	132.00		
00873	FLAXSEED POWDER (HI-LIGNAN NUTRI-FLAX) - 16 oz powder	9.95	7.46		
01200	FLORASTOR® - 50 caps	55.15	41.36		
01312	(OPTIMIZED) FOLATE (5-METHYLTETRAHYDROFOLATE) - 100 veg. caps	28.00	21.00		
	(OPTIMIZED) FOLATE (5-METHYLTETRAHYDROFOLATE) - 4 bottles of 100 veg. caps	100.00	75.00		
00347	FOLIC ACID + B12 CAPSULES - 200 caps	10.50	7.88		
	FOLIC ACID + B12 CAPSULES - 4 bottles of 200 caps	38.00	28.50		
00148	FOLIC ACID POWDER - 30 grams of powder	16.00	12.00		
	FOLIC ACID POWDER - 4 bottles of powder	55.00	41.25		
00300	FORSKOLIN - 10 mg, 60 caps of elemental forskolin	15.00	11.25		
	FORSKOLIN - 4 bottles of 60 caps of elemental forskolin	50.00	37.50		
00993	FUCOXANTHIN-SLIM™ - 90 softgels	44.00	33.00		
	FUCOXANTHIN-SLIM™ - 4 bottles of 90 softgels	156.00	117.00		
G					
00127	GABA POWDER - 100 grams of powder	\$23.75	\$17.81		
	GABA POWDER - 4 bottles of powder	90.00	67.50		
00559	GAMMA E TOCOPHEROL/TOCOTRIENOLS - 60 softgels	42.00	31.50		
	GAMMA E TOCOPHEROL/TOCOTRIENOLS - 4 bottles of 60 softgels	148.00	111.00		
00759	GAMMA E TOCOPHEROL W/SESAME LIGNANS - 60 softgels	32.00	24.00		
	GAMMA E TOCOPHEROL W/SESAME LIGNANS - 4 bottles of 60 softgels	116.00	87.00		
00612	GELATIN CAPSULES - Set of 1000 empty caps size "0"	15.00	11.25		
	GELATIN CAPSULES - 4 Sets	56.00	42.00		
00117	GELATIN CAPSULES - Set of 1000 empty caps size "00"	19.00	14.25		
	GELATIN CAPSULES - 4 Sets	72.00	54.00		
01301	GH PITUITARY SUPPORT DAY FORMULA - 120 vegetarian tabs	48.00	36.00		
	GH PITUITARY SUPPORT DAY FORMULA - 4 bottles of 120 veg. tabs	176.00	132.00		
01302	GH PITUITARY SUPPORT NIGHT FORMULA - 120 veg. caps	25.00	18.75		
	GH PITUITARY SUPPORT NIGHT FORMULA - 4 bottles of 120 veg. caps	90.00	67.50		
00778	GINKGO BILOBA CERTIFIED EXTRACT™ - 120 mg, 365 caps	46.00	34.50		
	GINKGO BILOBA CERTIFIED EXTRACT™ - 2 bottles of 365 caps	87.00	65.25		
00504	(SUPER) GINKGO EXTRACT - 120 mg, 100 caps	29.00	21.75		
	(SUPER) GINKGO EXTRACT - 4 bottles of 100 caps	106.00	79.50		
01032	PANAX RED GINSENG - 60 veg. caps	29.99	22.49		
00756	(MEGA) GLA WITH SESAME LIGNANS - 60 softgels	19.50	14.63		
	(MEGA) GLA WITH SESAME LIGNANS - 4 bottles of 60 softgels	72.00	54.00		
SUB-TOTAL OF COLUMN 8					

MARCH 2010

Buyers Club Order Form

To order call: 1.954.766.8433 or 1.800.544.4440

No.		Retail	Member Price	Qty	Total
G CONTINUED					
00345	(L) GLUTAMINE CAPSULES - 500 mg, 100 caps	\$14.95	\$11.21		
	(L) GLUTAMINE CAPSULES - 4 bottles of 100 caps	54.00	40.50		
00141	(L)-GLUTAMINE POWDER - 100 grams of powder	19.00	14.25		
	(L)-GLUTAMINE POWDER - 4 bottles of powder	67.52	50.64		
00522	GLUCOSAMINE/CHONDROITIN CAPSULES - 100 caps	38.00	28.50		
	GLUCOSAMINE/CHONDROITIN CAPSULES - 4 bottles of 100 caps	128.00	96.00		
00512	GLUCOFIT™ (COROSOLIC ACID) - 100 softgels	28.00	21.00		
	GLUCOFIT™ (COROSOLIC ACID) - 4 bottles of 100 softgels	100.00	75.00		
00113	GLUTATHIONE, C & CYSTEINE - 750 mg, 100 caps	18.00	13.50		
	GLUTATHIONE, C & CYSTEINE - 4 bottles of 100 caps	64.00	48.00		
00314	(MEGA) L-GLUTATHIONE - 250 mg, 60 caps	35.95	26.96		
	(MEGA) L-GLUTATHIONE - 4 bottles of 60 caps	129.44	97.08		
00795	GLYCINE CAPSULES - 1000 mg, 100 caps	12.00	9.00		
	GLYCINE CAPSULES - 4 bottles of 100 caps	43.20	32.40		
00128	GLYCINE POWDER - 300 grams of powder	18.00	13.50		
	GLYCINE POWDER - 4 bottles of powder	64.00	48.00		
01091	(WHOLE) GRAPE EXTRACT w/RESVERATROL - 60 veg. caps	36.00	27.00		
	(WHOLE) GRAPE EXTRACT w/RESVERATROL - 4 bottles of 60 veg. caps	136.00	102.00		
01411	GRAPE SEED EXTRACT w/RESVERATROL & PTEROSTILBENE-100 mg, 60 veg. caps	36.00	27.00		
	GRAPE SEED EXTRACT w/RESVERATROL & PTEROSTILBENE-4 bottles of 60 veg. caps	136.00	102.00		
00203	GREEN TEA LEAVES - 300 grams of powder	15.00	11.25		
	GREEN TEA LEAVES - 4 bottles of powder	50.00	37.50		
00953	(MEGA) GREEN TEA EXTRACT - lightly caffeinated - 100 veg. caps	28.00	21.00		
	(MEGA) GREEN TEA EXTRACT - 4 bottles of 100 veg. caps	106.00	79.50		
00954	(MEGA) GREEN TEA EXTRACT - decaffeinated - 100 veg. caps	28.00	21.00		
	(MEGA) GREEN TEA EXTRACT - 4 bottles of 100 veg. caps	106.00	79.50		
H					
00230	HCA - 90 caps	\$18.00	\$13.50		
	HCA - 4 bottles of 90 caps	62.00	46.50		
00656	HEPATOPRO - 900 mg, 60 softgel	49.50	37.13		
	HEPATOPRO - 4 bottles of 60 softgel	188.00	141.00		
00138	HESPERIDIN COMPLEX POWDER - 300 grams of powder	19.00	14.25		
	HESPERIDIN COMPLEX POWDER - 4 bottles of powder	65.00	48.75		
00873	HI-LIGNAN NUTRI-FLAX - 16 oz powder	9.95	7.46		
00800	HOMOCYSTEINE RESIST - 100 caps	24.00	18.00		
	HOMOCYSTEINE RESIST - 4 bottles of 100 caps	86.40	64.80		
00067	HOODIA GORDONII - 60 caps	14.00	10.50		
00627	HUPERZINE A W/NATURAL VITAMIN E - 50 mcg, 60 caps	27.95	20.96		
	HUPERZINE A W/NATURAL VITAMIN E - 4 bottles of 60 caps	96.00	72.00		
00661	HYDRODERM® - 1 oz bottle	79.95	59.96		
	HYDRODERM® - 2 - 1 oz bottles	130.66	98.00		
I					
00955	IMMUNE PROTECT W/PARACTIN® - 30 veg. caps	\$29.50	\$22.13		
	IMMUNE PROTECT W/PARACTIN® - 4 bottles of 30 veg. caps	106.20	79.65		
01004	INNERPOWER™ W/SWEET STEVIA- Tropical Flavor Powder	44.00	33.00		
00155	INOSINE CAPSULES - 500 mg, 60 caps	22.95	17.21		
	INOSINE CAPSULES - 4 bottles of 60 caps	84.00	63.00		
00140	INOSINE POWDER - 100 grams of powder	52.00	39.00		
	INOSINE POWDER - 4 bottles of powder	180.00	135.00		
00109	INOSITOL CAPSULES - 500 mg, 100 caps	13.50	10.13		
	INOSITOL CAPSULES - 4 bottles of 100 caps	50.00	37.50		
00410	INOSITOL CAPSULES - 1000 mg, 360 caps	48.00	36.00		
	INOSITOL CAPSULES - 4 bottles of 360 caps	175.00	131.25		
00108	INOSITOL POWDER - 100 grams of powder	18.00	13.50		
	INOSITOL POWDER - 4 bottles of powder	67.52	50.64		
SUB-TOTAL OF COLUMN 9					

MARCH 2010

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

No.		Retail	Member Price	Qty	Total
J, K					
01021	INTACT™ DIGEST - 8 fl oz	\$29.95	\$22.46		
	INTACT™ DIGEST - 4 - 8 fl oz bottles	112.00	84.00		
01292	INTEGRA-LEAN® IRVINGIA - 150 mg, 60 veg. caps	56.00	42.00		
	INTEGRA-LEAN® IRVINGIA - 4 bottles of 60 veg. caps	192.00	144.00		
01002	IODORAL - 180 caps	50.00	37.50		
00563	IRON PROTEIN PLUS - 300 mg, 100 caps	24.00	18.00		
	IRON PROTEIN PLUS - 4 bottles of 100 caps	88.00	66.00		
01492	(OPTIMIZED) IRVINGIA W/PHASE 3™ - 120 veg. caps	78.00	58.50		
	CALORIE CONTROL COMPLEX	288.00	216.00		
L					
00056	JARRO-DOPHILUS EPS™ - 60 veg. caps	\$19.95	\$14.96		
01224	(SUPER) K WITH ADVANCED K2 COMPLEX - 90 softgels	26.00	19.50		
	(SUPER) K WITH ADVANCED K2 COMPLEX - 4 bottles of 90 softgels	92.00	69.00		
01050	NKO KRILL OIL - 60 softgels	33.95	25.46		
00316	KYOLIC® GARLIC FORMULA 102 - 350 mg, 200 caps	23.95	17.96		
	KYOLIC® GARLIC FORMULA 102 - 4 bottles of 200 caps	82.00	61.50		
00214	KYOLIC® GARLIC FORMULA 105 - 200 caps	22.95	17.21		
	KYOLIC® GARLIC FORMULA 105 - 4 bottles of 200 caps	73.00	54.75		
00789	KYOLIC® RESERVE - 600 mg, 120 caps	24.75	18.56		
	KYOLIC® RESERVE - 4 bottles of 120 caps	85.80	64.36		
I, K					
00513	LACTOFERRIN (APOLACTOFERRIN) CAPS - 300 mg, 60 caps	\$40.00	\$30.00		
	LACTOFERRIN (APOLACTOFERRIN) CAPS - 4 bottles of 60 caps	144.00	108.00		
00017	LAVILIN UNDERARM DEODORANT - 12.5 grams of cream	15.00	11.25		
	LAVILIN UNDERARM DEODORANT - 4 jars of cream	55.00	41.25		
01003	LIFE EXTENSION CAT MIX - 100 grams of powder	15.00	11.25		
	LIFE EXTENSION CAT MIX - 4 bottles of powder	48.00	36.00		
00544	LIFE EXTENSION DOG MIX - 100 grams of powder	19.50	14.63		
	LIFE EXTENSION DOG MIX - 4 bottles of powder	64.00	48.00		
00010	LIFE EXTENSION HAIR CONDITIONER - 16 oz bottle	6.00	4.50		
	LIFE EXTENSION HAIR CONDITIONER - 4 bottles	18.00	13.50		
00020	LIFE EXTENSION LECITHIN GRANULES - 16 oz. jar	15.00	11.25		
	LIFE EXTENSION LECITHIN GRANULES - 4 jars	50.00	37.50		
00019	LIFE EXTENSION LECITHIN w/B5 AND BHA - 16 oz. jar	15.00	11.25		
	LIFE EXTENSION LECITHIN w/B5 AND BHA - 4 16 oz. 4 jars	50.00	37.50		
01455	LIFE EXTENSION MIX™ - 315 tablets	98.00	73.50		
	LIFE EXTENSION MIX™ - 4 bottles of 315 tablets	344.00	258.00		
	LIFE EXTENSION MIX™ - 10 bottles of 315 tablets	695.00	521.25		
01457	LIFE EXTENSION MIX™ w/EXTRA NIACIN - 315 tablets	98.00	73.50		
	LIFE EXTENSION MIX™ w/EXTRA NIACIN - 4 bottles of 315 tablets	344.00	258.00		
	LIFE EXTENSION MIX™ w/EXTRA NIACIN - 10 bottles of 315 tablets	695.00	521.25		
01454	LIFE EXTENSION MIX™ - 490 caps	110.00	82.50		
	LIFE EXTENSION MIX™ - 4 bottles of 490 caps	392.00	294.00		
	LIFE EXTENSION MIX™ - 10 bottles of 490 caps	850.00	637.50		
01456	LIFE EXTENSION MIX™ POWDER - 14.81 oz of powder	98.00	73.50		
	LIFE EXTENSION MIX™ POWDER - 4 bottles of powder	344.00	258.00		
	LIFE EXTENSION MIX™ POWDER - 10 bottles of powder	720.00	540.00		
01465	LIFE EXTENSION MIX™ - 315 tablets without copper	98.00	73.50		
	LIFE EXTENSION MIX™ - 4 bottles of 315 tablets without copper	344.00	258.00		
	LIFE EXTENSION MIX™ - 10 bottles of 315 tablets without copper	695.00	521.25		
01467	LIFE EXTENSION MIX™ w/EXTRA NIACIN 315 tablets w/o copper	98.00	73.50		
	LIFE EXTENSION MIX™ w/EXTRA NIACIN 4 bottles of 315 tablets w/o copper	344.00	258.00		
	LIFE EXTENSION MIX™ W/EXTRA NIACIN 10 bottles of 315 tablets w/o copper	695.00	521.25		
SUB-TOTAL OF COLUMN 10					

To order online visit: www.lifeextension.com

No.		Retail	Member Price	Qty	Total
01464	LIFE EXTENSION MIX™ - 490 caps without copper	\$110.00	\$82.50		
	LIFE EXTENSION MIX™ - 4 bottles of 490 caps without copper	392.00	294.00		
	LIFE EXTENSION MIX™ - 10 bottles of 490 caps without copper	850.00	637.50		
01466	LIFE EXTENSION MIX™ POWDER - 14.81 oz of powder without copper	98.00	73.50		
	LIFE EXTENSION MIX™ POWDER - 4 bottles of powder without copper	344.00	258.00		
	LIFE EXTENSION MIX™ POWDER - 10 bottles of powder without copper	720.00	540.00		
01279	LIFE EXTENSION MOUTHWASH w/POMEGRANATE - 16 oz bottle	18.50	13.88		
	LIFE EXTENSION MOUTHWASH w/POMEGRANATE - 4 -16 oz bottle	68.00	51.00		
01401	LIFE EXTENSION ONE-PER-DAY - 60 veg. tablets	19.95	14.96		
	LIFE EXTENSION ONE-PER-DAY - 4 bottles of 60 veg. tablets	72.00	54.00		
00011	LIFE EXTENSION SHAMPOO - 16 oz bottle	6.00	4.50		
	LIFE EXTENSION SHAMPOO - 4 bottles	19.00	14.25		
01278	LIFE EXTENSION TOOTHPASTE MINT FLAVOR - 4 oz	9.50	7.13		
	LIFE EXTENSION TOOTHPASTE MINT FLAVOR - 4, 4 oz tubes	34.68	26.00		
01416	LIFE EXTENSION TWO-PER-DAY - 60 veg. tablets	9.95	7.46		
	LIFE EXTENSION TWO-PER-DAY - 4 bottles of 60 veg. tablets	36.00	27.00		
01415	LIFE EXTENSION TWO-PER-DAY - 120 veg. tablets	18.95	14.21		
	LIFE EXTENSION TWO-PER-DAY - 4 bottles of 120 veg. tablets	68.00	51.00		
00263	LIFE FLORA™ - 300 mg, 120 caps	20.50	15.38		
	LIFE FLORA™ - 4 bottles of 120 caps	75.00	56.25		
00032	LIFE MIX - 1 lb can of powder	25.00	18.75		
	LIFE MIX - 4 cans of powder	90.00	67.50		
00294	LIQUID EMULSIFIED VITAMIN A DROPS - 20,000 IU per drop	27.00	20.25		
	LIQUID EMULSIFIED VITAMIN A DROPS - 4 bottles	96.00	72.00		
00939	5-LOXIN® - 75 mg, 100 veg. caps	19.50	14.63		
	5-LOXIN® - 4 bottles of 100 veg. caps	69.00	51.75		
01013	L-LYSINE CAPSULES - 620 mg, 100 caps	9.00	6.75		
	L-LYSINE CAPSULES - 4 bottles of 100 caps	32.00	24.00		
00129	L-LYSINE POWDER - 300 grams of powder	16.00	12.00		
	L-LYSINE POWDER - 4 bottles of powder	55.00	41.25		
01017	LUSTRE™ - 90 tablets	17.00	12.75		
	LUSTRE™ - 4 bottles of 90 tablets	61.00	45.75		
01014	LUTEIN PLUS - 150 grams of powder	25.00	18.75		
	LUTEIN PLUS - 4 bottles of powder	88.00	66.00		
01028	LYCOPENE - 10 mg, 60 softgels	24.98	18.74		
00455	(MEGA) LYCOPENE EXTRACT - 15 mg, 90 softgels	35.00	26.25		
	(MEGA) LYCOPENE EXTRACT - 4 bottles of 90 softgels	120.00	90.00		
M					
01044	MAGNESIUM CAPS - 500 mg, 100 caps	\$9.50	\$7.13		
	MAGNESIUM CAPS - 4 bottles of 100 caps	32.00	24.00		
00502	MAGNESIUM CITRATE CAPS - 160 mg, 100 caps	9.00	6.75		
	MAGNESIUM CITRATE CAPS - 4 bottles of 100 caps	30.00	22.50		
00057	MAGNESIUM OXIDE POWDER - 1 kilogram of powder	14.00	10.50		
	MAGNESIUM OXIDE POWDER - 4 bottles of powder	52.52	39.39		
00704	MAITAKE™ SX-FRACTION - 90 tablets	49.95	37.46		
00048	(SUPER) MAX EPA - 12 oz liquid concentrate	18.50	13.88		
	(SUPER) MAX EPA - 4 bottles of concentrate	66.00	49.50		
00547	MELATONIN - 300 mcg, 100 caps	5.75	4.31		
	MELATONIN - 4 bottles of 100 caps	20.00	15.00		
00328	MELATONIN CAPSULES - 500 mcg, 200 caps	16.00	12.00		
	MELATONIN CAPSULES - 4 bottles of 200 caps	56.00	42.00		
00329	MELATONIN CAPSULES - 1 mg, 60 caps	5.00	3.75		
	MELATONIN CAPSULES - 4 bottles of 60 caps	18.52	13.89		

SUB-TOTAL OF COLUMN 11

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

Buyers Club Order Form

No.		Retail	Member Price	Qty	Total
00330	MELATONIN CAPSULES - 3 mg, 60 caps	\$8.00	\$6.00		
	MELATONIN CAPSULES - 4 bottles of 60 caps	27.52	20.64		
00333	MELATONIN CAPSULES - 3 mg, 60 time-release caps	10.50	7.88		
	MELATONIN CAPSULES - 4 bottles of 60 time-release caps	37.52	28.14		
00331	MELATONIN CAPSULES - 10 mg, 60 caps	28.00	21.00		
	MELATONIN CAPSULES - 4 bottles of 60 caps	96.00	72.00		
00332	MELATONIN LOZENGES - 3 mg, 60 dissolve-in-mouth lozenges	8.00	6.00		
	MELATONIN LOZENGES - 4 bottles of 60 dissolve-in-mouth lozenges	27.52	20.64		
00546	MELATONIN TIME RELEASE - 300 mcg, 100 caps	6.25	4.69		
	MELATONIN TIME RELEASE - 4 bottles of 100 caps	22.52	16.89		
00540	MELATONIN TIME RELEASE - 750 mcg, 60 caps	5.75	4.31		
	MELATONIN TIME RELEASE - 4 bottles of 60 caps	20.00	15.00		
01009	MEMORY UPGRADE - 600 grams powder	26.95	20.21		
01047	MENOPAUSE SOLUTIONS - 120 tablets	49.95	37.46		
00536	METHYLCOBALAMIN - 1 mg, 60 dissolve-in-mouth lozenges (vanilla)	9.95	7.46		
	METHYLCOBALAMIN - 4 bottles of 60 dissolve-in-mouth lozenges	32.00	24.00		
00537	METHYLCOBALAMIN - 5 mg, 60 dissolve-in-mouth lozenges (vanilla)	32.00	24.00		
	METHYLCOBALAMIN - 4 bottles of 60 dissolve-in-mouth lozenges	100.00	75.00		
	METHYLCOBALAMIN - 10 bottles of 60 dissolve-in-mouth lozenges	230.00	172.50		
00130	L-METHIONINE POWDER - 100 grams of powder	22.00	16.50		
	L-METHIONINE POWDER - 4 bottles of powder	75.00	56.25		
00709	MIGRA-EEZE (BUTTERBUR) - 60 softgels	29.50	22.13		
	MIGRA-EEZE (BUTTERBUR) - 4 bottles of 60 softgels	105.32	79.00		
00623	MINERAL FORMULA FOR MEN - 100 caps	15.00	11.25		
	MINERAL FORMULA FOR MEN - 4 bottles of 100 caps	50.00	37.50		
	MINERAL FORMULA FOR MEN - 12 bottles of 100 caps	130.00	97.50		
00624	MINERAL FORMULA FOR WOMEN - 100 caps	15.00	11.25		
	MINERAL FORMULA FOR WOMEN - 4 bottles of 100 caps	50.00	37.50		
	MINERAL FORMULA FOR WOMEN - 12 bottles of 100 caps	130.00	97.50		
01315	(SUPER) MIRAFORTE w/STANDARDIZED LIGNANS - 120 caps	62.00	46.50		
	(SUPER) MIRAFORTE w/STANDARDIZED LIGNANS - 4 bottles of 120 caps	224.00	168.00		
01368	MITOCHONDRIAL ENERGY OPTIMIZER - 120 caps	86.00	64.50		
	MITOCHONDRIAL ENERGY OPTIMIZER - 4 bottles of 120 caps	312.00	234.00		
00803	MISTORAL III w/COQ10 - 2 fl oz bottle	28.00	21.00		
	MISTORAL III w/COQ10 - 4 bottles	101.32	75.99		
00065	MK-7 - 90 mcg, 60 softgels	28.00	21.00		
	MK-7 - 4 bottles of 60 softgels	100.00	75.00		
00451	MSM (METHYL-SULFONYL-METHANE) - 1000 mg, 100 caps	14.00	10.50		
	MSM (METHYL-SULFONYL-METHANE) - 4 bottles of 100 caps	47.80	35.85		
N					
00215	N-ACETYL CYSTEINE CAPSULES - 600 mg, 60 caps	\$14.00	\$10.50		
	N-ACETYL CYSTEINE CAPSULES - 4 bottles of 60 caps	54.00	40.50		
00168	NAPCA W/ALOE VERA - 8 fl oz bottle	9.50	7.13		
	NAPCA W/ALOE VERA - 4 bottles	35.00	26.25		
00066	NATTOKINASE - 60 softgels	34.98	26.24		
00718	NATTOKINASE (FIBRINOGEN RESIST FORMULA) - 30 caps	49.00	36.75		
	NATTOKINASE (FIBRINOGEN RESIST FORMULA) - 4 bottles of 30 caps	176.00	132.00		
00891	NATURAL APPETITE CONTROL - 90 softgels	28.00	21.00		
	NATURAL APPETITE CONTROL - 4 bottles of 90 softgels	100.80	75.60		
00984	NATURAL BP MANAGEMENT - 60 tablets	42.00	31.50		
	NATURAL BP MANAGEMENT - 4 bottles of 60 tablets	151.20	113.40		
00913	NATURAL ESOPHAGUARD - 10 softgels	19.95	14.96		
	NATURAL ESOPHAGUARD - 2 boxes of 10 softgels	38.00	28.50		

SUB-TOTAL OF COLUMN 12

MARCH 2010

Buyers Club Order Form

To order call: 1.954.766.8433 or 1.800.544.4440

No.		Retail	Member Price	Qty	Total
N CONTINUED					
00712	NATURAL ESTROGEN w/POMEGRANATE EXTRACT - 60 caplets	\$38.00	\$28.50		
	NATURAL ESTROGEN w/POMEGRANATE EXTRACT - 4 bottles of 60 caplets	132.00	99.00		
01221	NATURAL FEMALE SUPPORT - 30 veg. caps	28.00	21.00		
	NATURAL FEMALE SUPPORT - 4 bottles of 30 veg. caps	96.00	72.00		
00698	NATURAL RELIEF 1222™ - 2 oz tube	28.00	21.00		
	NATURAL RELIEF 1222™ - 4, 2 oz tubes	100.00	75.00		
00990	NATURAL SLEEP - 3 mg, 60 caps	12.99	9.74		
	NATURAL SLEEP - 4 bottles of 60 caps	40.00	30.00		
00277	NATURAL SLEEP MELATONIN - 5 mg, 60 caps	18.00	13.50		
	NATURAL SLEEP MELATONIN - 4 bottles of 60 caps	64.00	48.00		
00987	NATURAL STRESS RELIEF - 30 veg. caps	28.00	21.00		
	NATURAL STRESS RELIEF - 4 bottles of 30 veg. caps	96.00	72.00		
01000	NEW FACE SOLUTION - 1.7 oz bottle	54.00	40.50		
	NEW FACE SOLUTION - 4 bottles of 1.7 oz	196.00	147.00		
00096	NIACIN (B-3) CAPSULES - 1000 mg, 100 caps	12.75	9.56		
	NIACIN (B-3) CAPSULES - 4 bottles of 100 caps	48.00	36.00		
00372	NIACIN (B-3) CAPSULES - 500 mg, 100 caps	7.65	5.74		
	NIACIN (B-3) CAPSULES - 4 bottles of 100 caps	26.60	19.95		
00373	NO-FLUSH NIACIN - 800 mg, 100 caps	19.00	14.25		
	NO-FLUSH NIACIN - 4 bottles of 100 caps	68.00	51.00		
00262	NUTRAFLORA - 500 grams of powder	46.00	34.50		
	NUTRAFLORA - 4 bottles of powder	160.00	120.00		
01035	NUTRIM POWDER - 170 grams powder	25.95	19.46		
00523	N-ZIMES® - 270 caps	23.90	17.93		
	N-ZIMES® - 4 bottles of 270 caps	88.00	66.00		
O					
00104	OCTACOSANOL - 8000 mcg, 60 caps	\$15.75	\$11.81		
	OCTACOSANOL - 4 bottles of 60 caps	56.00	42.00		
01483	(SUPER) OMEGA 3 EPA/DHA w/SESAME LIGNANS & OLIVE FRUIT EXTRACT - 60 softgels	18.00	13.50		
	(SUPER) OMEGA 3 EPA/DHA w/SESAME LIGNANS & OLIVE FRUIT EXTRACT - 4 bottles of 60 softgels	64.00	48.00		
01482	(SUPER) OMEGA 3 EPA/DHA w/SESAME LIGNANS & OLIVE FRUIT EXTRACT - 120 softgels	32.00	24.00		
	(SUPER) OMEGA 3 EPA/DHA w/SESAME LIGNANS & OLIVE FRUIT EXTRACT - 4 bottles of 120 softgels	112.00	84.00		
	(SUPER) OMEGA 3 EPA/DHA W/SESAME LIGNANS & OLIVE FRUIT EXTRACT - 10 bottles of 120 softgels	249.00	186.75		
01484	(SUPER) OMEGA 3 EPA/DHA w/SESAME LIGNANS & OLIVE FRUIT EXTRACT (ENTERIC COATED) - 120 softgels	34.00	25.50		
	(SUPER) OMEGA 3 EPA/DHA w/SESAME LIGNANS & OLIVE FRUIT EXTRACT (ENTERIC COATED) - 4 bottles of 120 softgels	124.00	93.00		
	(SUPER) OMEGA 3 EPA/DHA W/SESAME LIGNANS & OLIVE FRUIT EXTRACT (ENTERIC COATED) - 10 bottles of 120 softgels	280.00	210.00		
00717	ONLY TRACE MINERALS - 90 caps	15.00	11.25		
	ONLY TRACE MINERALS - 4 bottles of 90 caps	50.00	37.50		
00915	OPTIZINC® - 30 mg, 90 veg. caps	5.95	4.46		
	OPTIZINC® - 4 bottles of 90 veg. caps	20.00	15.00		
00043	L-ORNITHINE CAPSULES - 500 mg, 100 caps	24.95	18.71		
	L-ORNITHINE CAPSULES - 4 bottles of 100 caps	80.00	60.00		
P					
00107	PABA CAPS - 500 mg, 100 caps	\$10.50	\$7.88		
	PABA CAPS - 4 bottles of 100 caps	37.50	28.12		
00106	PABA POWDER - 100 grams of powder	15.00	11.25		
	PABA POWDER - 4 bottles of powder	55.00	41.25		

SUB-TOTAL OF COLUMN 13

MARCH 2010

* Product cannot be sold outside the USA. **LIFE EXTENSION MEMBERS RECEIVE 25% OFF THE RETAIL PRICE OF ALL PRODUCTS**

No.		Retail	Member Price	Qty	Total
00073	PANCREATIN - 500 mg, 50 caps		\$9.75	\$7.31	
	PANCREATIN - 4 bottles of 50 caps		36.00	27.00	
00137	PAPAIN POWDER - 100 grams of powder		24.00	18.00	
	PAPAIN POWDER - 4 bottles of powder		80.00	60.00	
00923	PEAK ATP® WITH GLYCOCARN® - 60 tablets		59.00	44.25	
	PEAK ATP® WITH GLYCOCARN® - 4 bottles of 60 tablets		224.00	168.00	
00342	PECTA-SOL - One-month supply modified citrus pectin		99.95	74.96	
	PECTA-SOL - Four-month supply modified citrus pectin		382.80	287.10	
00872	PGX FIBER POWDER (SLIMSTYLES) - 6.4 oz powder		22.95	17.21	
00673	(WELLBETX) PGX SOLUBLE FIBER BLEND -180 caps		34.95	26.21	
00865	PHARMAGABA™ - 60 chewable tablets		29.95	22.46	
	PHARMAGABA™ - 4 bottles of 60 chewable tablets		108.00	81.00	
00131	L-PHENYLALANINE POWDER - 100 grams of powder		28.00	21.00	
	L-PHENYLALANINE POWDER - 4 bottles of powder		100.00	75.00	
00368	PHOSPHATIDYLSERINE CAPS - 100 mg, 100 caps		54.00	40.50	
	PHOSPHATIDYLSERINE CAPS - 4 bottles of 100 caps		192.00	144.00	
01050	PHOSPHOMEZA™ KRILL OIL - 60 softgels		33.95	25.46	
01016	PHYTO-FOOD - 80 grams of powder		46.00	34.50	
	PHYTO-FOOD - 4 bottles of powder		172.00	129.00	
00614	PILL CUTTER/GRINDER		11.95	8.96	
00561	POLICOSANOL - 10 mg, 60 tablets		24.00	18.00	
	POLICOSANOL - 6 bottles of 60 tablets		108.00	81.00	
00994	(SUPER) POLYPHENOL EXTRACT w/ COCOAGOLD™ - 30 veg caps		24.00	18.00	
	(SUPER) POLYPHENOL EXTRACT w/ COCOAGOLD™ - 4 bottles of 30 veg. caps		84.00	63.00	
00956	POMEGRANATE EXTRACT - 30 veg. caps		19.50	14.63	
	POMEGRANATE EXTRACT - 4 bottles of 30 veg. caps		70.20	52.64	
01256	POMEGRANATE EXTRACT w/ COCOAGOLD™ - 30 veg caps		24.00	18.00	
	POMEGRANATE EXTRACT w/ COCOAGOLD™ - 4 bottles of 30 veg caps		84.00	63.00	
00957	POMEGRANATE JUICE CONCENTRATE - 16 oz. liquid		25.95	19.46	
	POMEGRANATE JUICE CONCENTRATE - 4 bottles of 16 oz liquid		96.00	72.00	
00577	POTASSIUM IODIDE - 1 box, 14 tablets		6.95	5.21	
	POTASSIUM IODIDE - 4 boxes, 14 tablets		21.00	15.75	
00302	PREGNENOLONE CAPSULES - 50 mg, 100 caps		24.00	18.00	
	PREGNENOLONE CAPSULES - 4 bottles of 100 caps		76.00	57.00	
00700	PREGNENOLONE CAPSULES - 100 mg, 100 caps		26.00	19.50	
	PREGNENOLONE CAPSULES - 4 bottles of 100 caps		90.00	67.50	
*01373	PRELOX® NATURAL SEX FOR MEN® - 60 tablets		50.00	37.50	
	PRELOX® NATURAL SEX FOR MEN® - 4 bottles of 60 tablets		180.00	135.00	
00571	PRIMAL DEFENSE® - 900 mg, 90 caplets		49.95	37.46	
	PRIMAL DEFENSE® - 4 bottles of 90 caplets		194.00	145.50	
01019	PRIMAL DEFENSE® - 180 caplets		78.95	59.21	
00525	PROBOOST THYMIC PROTEIN™ - 4 mcg, 30 packets		72.00	54.00	
	PROBOOST THYMIC PROTEIN™ - 4 boxes		280.00	210.00	
00869	PRO FEM CREAM - 2 oz jar, Progesterone Cream		26.00	19.50	
	PRO FEM CREAM - 4, 2 oz jars, Progesterone Cream		96.00	72.00	
01020	PROGREENS® - 15 stick pack		22.50	16.88	
00396	PRO M - 500 mg, 100 caps		28.00	21.00	
	PRO M - 4 bottles of 100 caps		104.00	78.00	
*01475	(ULTRA NAT) PROSTATE FORMULA w/ 5-LOXIN® STAND. LIGNANS-60 softgels		38.00	28.50	
	(ULTRA NAT) PROSTATE FORMULA w/ 5-LOXIN® STAND. LIGNANS-4 bot of 60 softgels		140.00	105.00	
	(ULTRA NAT) PROSTATE FORMULA w/ 5-LOXIN® STAND. LIGNANS-12 bot of 60 softgels		384.00	288.00	
01092	(ENHANCED LIFE EXTENSION) PROTEIN (VANILLA) - 1 kg. of powder		38.00	28.50	
	(ENHANCED LIFE EXTENSION) PROTEIN (VANILLA) - 4 bot of powder		144.00	108.00	
01093	(ENHANCED LIFE EXTENSION) PROTEIN (CHOCOLATE) - 1 kg of powder		38.00	28.50	
	(ENHANCED LIFE EXTENSION) PROTEIN (CHOCOLATE) - 4 bot of powder		144.00	108.00	

SUB-TOTAL OF COLUMN 14

Buyers Club Order Form

No.		Retail	Member Price	Qty	Total
01094	(ENHANCED LIFE EXTENSION) PROTEIN (NATURAL) - 1 kg of powder	\$38.00	\$28.50		
	(ENHANCED LIFE EXTENSION) PROTEIN (NATURAL) - 4 bot of powder	144.00	108.00		
01095	(ENHANCED LIFE EXTENSION) PROTEIN (BERRY) - 1 kg of powder	38.00	28.50		
	(ENHANCED LIFE EXTENSION) PROTEIN (BERRY) - 4 bot of powder	144.00	108.00		
00290	(DESIGNER WHEY) PROTEIN - Vanilla 2 lbs of powder	41.95	31.46		
	(DESIGNER WHEY) PROTEIN - 4 bottles of Vanilla powder	152.00	114.00		
00282	(DESIGNER WHEY) PROTEIN - Chocolate 2 lbs of powder	41.95	31.46		
	(DESIGNER WHEY) PROTEIN - 4 bottles of Chocolate powder	152.00	114.00		
00283	(DESIGNER WHEY) PROTEIN - Natural 2 lbs of powder	41.95	31.46		
	(DESIGNER WHEY) PROTEIN - 4 bottles of Natural powder	152.00	114.00		
01056	PURE-GAR® - 200 caps	24.95	18.71		
	PURE-GAR® - 4 bottles of 200 caps	84.00	63.00		
01209	(WATER-SOLUBLE) PUMPKIN SEED EXTRACT - 60 veg. caps	20.00	15.00		
	(WATER-SOLUBLE) PUMPKIN SEED EXTRACT - 4 bottles 60 veg. caps	72.00	54.00		
01210	(WATER-SOLUBLE) PUMPKIN SEED EXT w/SOY ISOFLAVONES - 60 veg. caps	22.00	16.50		
	(WATER-SOLUBLE) PUMPKIN SEED EXT w/SOY ISOFLAVONES - 4 bottles 60 veg.	80.00	60.00		
01031	PYCNOGENOL® - 60 veg. caps	86.95	65.21		
01207	PYRIDOXAMINE CAPS - 50 mg, 60 veg. caps	22.00	16.50		
	PYRIDOXAMINE CAPS - 4 bottles of 60 veg. caps	79.20	59.40		
Q, R					
01309	(OPTIMIZED) QUERCETIN - 250 mg, 60 veg. caps	\$18.00	\$13.50		
	(OPTIMIZED) QUERCETIN - 4 bottles of 60 veg. caps	68.00	51.00		
01030	RED YEAST RICE (Bluebonnet) - 600 mg, 60 veg. caps	15.95	11.96		
00979	RED YEAST RICE (Nature's Plus) - 600 mg, 60 veg. caps	22.75	17.06		
00060	RED YEAST RICE EXTENDED RELEASE (Nature's Plus) - 30 veg. tablets	20.55	15.41		
00605	REGIMINT® - 60 enteric-coated caps	19.95	14.96		
	REGIMINT® - 4 bottles of 60 caps	74.68	56.01		
00448	REJUVENEX® BODY LOTION - 6 oz tube	24.00	18.00		
	REJUVENEX® BODY LOTION - 4 tubes	79.20	59.40		
	REJUVENEX® BODY LOTION - 8 tubes	136.00	102.00		
00918	REJUVENEX® FACTOR - 1.7 oz Airless pump bottle	65.00	48.75		
	REJUVENEX® FACTOR - 2 bottles	120.00	90.00		
	REJUVENEX® FACTOR - 4 bottles	220.00	165.00		
	REJUVENEX® FACTOR - 8 bottles	399.28	299.46		
01220	(ULTRA) REJUVENEX® - 2 oz jar	52.00	39.00		
	(ULTRA) REJUVENEX® - 2 jars	96.00	72.00		
	(ULTRA) REJUVENEX® - 4 jars	176.00	132.00		
	(ULTRA) REJUVENEX® - 8 jars	319.44	239.38		
00676	(ULTRA) REJUVENIGHT (DREAM CREAM) - 2 oz jar	39.95	29.96		
	(ULTRA) REJUVENIGHT (DREAM CREAM) - 4 jars	144.00	108.00		
00706	(ULTRA) REJUVENIGHT w/PROGESTERONE - 2 oz jar	42.00	31.50		
	(ULTRA) REJUVENIGHT W/PROGESTERONE - 4 jars	152.00	114.00		
01413	RESVERATROL w/PTEROSTILBENE - 20 mg, 60 veg. caps	24.00	18.00		
	RESVERATROL w/PTEROSTILBENE - 4 bottles of 60 veg. caps	88.00	66.00		
01410	RESVERATROL w/PTEROSTILBENE - 100 mg, 60 veg. caps	36.00	27.00		
	RESVERATROL w/PTEROSTILBENE - 4 bottles of 60 veg. caps	128.00	96.00		
01409	(OPTIMIZED) RESVERATROL w/PTEROSTILBENE - 250 mg, 60 veg. caps	46.00	34.50		
	(OPTIMIZED) RESVERATROL w/PTEROSTILBENE - 4 bottles of 60 veg. caps	165.32	124.00		
00889	RHODIOLA EXTRACT - 250 mg, 60 veg. caps	11.75	8.81		
	RHODIOLA EXTRACT - 4 bottles of 60 veg. caps	42.32	31.74		
00972	(D) RIBOSE POWDER - 150 grams of powder	27.50	20.63		
	(D) RIBOSE POWDER - 4 jars of 150 grams	99.00	74.25		
00973	(D) RIBOSE CAPS - 120 veg. caps	32.00	24.00		
	(D) RIBOSE CAPS - 4 bottles of 120 veg. caps	115.20	86.40		

SUB-TOTAL OF COLUMN 15

No.		Retail	Member Price	Qty	Total
01208	(SUPER) R-LIPOIC ACID - 300 mg, 60 veg. caps	\$49.00	\$36.75		
	(SUPER) R-LIPOIC ACID - 4 bottles of 60 veg. caps	180.00	135.00		
00070	RNA CAPSULES - 500 mg, 100 caps	17.95	13.46		
	RNA CAPSULES - 4 bottles of 100 caps	64.64	48.48		
00143	RNA POWDER - 100 grams of powder	24.00	18.00		
	RNA POWDER - 4 bottles of powder	80.00	60.00		
00917	ROSMARINIC ACID EXTRACT - 60 veg. caps	38.00	28.50		
	ROSMARINIC ACID EXTRACT - 4 bottles of 60 veg. caps	144.00	108.00		
00139	RUTIN POWDER - 100 grams of powder	15.50	11.63		
	RUTIN POWDER - 4 bottles of powder	55.00	41.25		
S					
* 00573	SAMBU GUARD - 175 ml		\$17.49	\$13.99	
00358	SAME (S-ADENOSYL-METHIONINE) - 200 mg, 20 enteric coated tablets	18.95	14.21		
	SAME (S-ADENOSYL-METHIONINE) - 8 boxes of 20 enteric coated tablets	132.80	99.60		
00453	SAME (S-ADENOSYL-METHIONINE) - 200 mg, 50 enteric coated tablets	45.00	33.75		
	SAME (S-ADENOSYL-METHIONINE) - 4 bottles of 50 enteric coated tablets	156.00	117.00		
00557	SAME (S-ADENOSYL-METHIONINE) - 400 mg, 20 enteric coated tablets	35.00	26.25		
	SAME (S-ADENOSYL-METHIONINE) - 6 boxes of 20 enteric coated tablets	168.00	126.00		
01043	SEA-IODINE™ - 1000 mcg, 60 veg. caps	8.00	6.00		
	SEA-IODINE™ - 4 bottles of 60 veg. caps	28.80	21.60		
00046	SELENIUM - 2 oz dropper bottle	9.45	7.09		
	SELENIUM - 4 bottles of 2 oz bottle	36.00	27.00		
00567	SE-METHYLSelenocysteine - 200 mcg, 100 caps	12.00	9.00		
	SE-METHYLSelenocysteine - 4 bottles of 100 caps	44.00	33.00		
00318	SERRAFLAZYME - 100 tablets	18.00	13.50		
	SERRAFLAZYME - 4 bottles of 100 tablets	64.00	48.00		
00339	SHARK-A CARTILAGE - 750 mg, 270 caps	68.00	51.00		
	SHARK-A CARTILAGE - 4 bottles of 270 caps	255.00	191.25		
00284	SHARK LIVER OIL (NORWEGIAN) - 1000 mg, 30 softgels	18.00	13.50		
	SHARK LIVER OIL (NORWEGIAN) - 4 bottles of 30 softgels	64.00	48.00		
00184	SILYMARIN - 100 mg, 50 caps	9.25	6.94		
	SILYMARIN - 4 bottles of 50 caps	33.00	24.75		
00702	(MEGA) SILYMARIN WITH ISOSILYBIN B - 100 caps	38.00	28.50		
	(MEGA) SILYMARIN WITH ISOSILYBIN B - 4 bottles of 100 caps	136.80	102.60		
00872	SLIMSTYLES PGX® - 6.4 oz powder	22.95	17.21		
00961	SODZYME® W/GLISODIN® AND WOLFBERRY - 90 veg. caps	28.00	21.00		
	SODZYME® W/GLISODIN® AND WOLFBERRY - 4 bottles of 90 veg. caps	96.00	72.00		
00657	SOLARSHIELD SUNGLASSES - 1 pair smoke color	12.99	9.74		
	SOLARSHIELD SUNGLASSES - 2 pair smoke color	23.00	17.25		
00785	(ULTRA) SOY EXTRACT - 675 mg, 600 caps	349.00	261.75		
	(ULTRA) SOY EXTRACT - 4 bottles of 600 caps	1260.00	945.00		
00304	SOY POWER POWDER - 300 grams of powder	31.50	23.63		
	SOY POWER POWDER - 4 bottles of powder	114.00	85.50		
00286	SOY PROTEIN POWDER (concentrated soy protein) - 16 oz of powder	12.00	9.00		
	SOY PROTEIN POWDER - 4 bottles of powder	42.50	31.87		
00432	STEVIA EXTRACT - 100 packets, 1 gram each	9.95	7.46		
	STEVIA EXTRACT - 4 boxes of 100 packets	36.00	27.00		
00351	ST. JOHN'S WORT EXTRACT - 300 mg, 60 caps	10.98	8.24		
	ST. JOHN'S WORT EXTRACT - 4 bottles of 60 caps	40.00	30.00		
00327	ST. JOHN'S WORT EXTRACT (PLANETARY) - 600 mg, 60 tablets	24.95	18.71		
	ST. JOHN'S WORT EXTRACT (PLANETARY) - 4 bottles of 60 tablets	85.00	63.75		
00971	SUN PROTECTION SPRAY W/BETA GLUCAN - SPF30 - 6 oz bottle	14.95	11.21		
	SUN PROTECTION SPRAY W/BETA GLUCAN - SPF30 - 4 bottles, 6 oz	54.00	40.50		

SUB-TOTAL OF COLUMN 16

Buyers Club Order Form

To order call: 1.954.766.8433 or 1.800.544.4440

No.		Retail	Member Price	Qty	Total
00747	(OVERCAST POLARIZED) SUNGLASSES - gray color, large	\$27.00	\$20.25		
	(OVERCAST POLARIZED) SUNGLASSES - 2 pairs, gray color	42.00	31.50		
00748	(OVERCAST POLARIZED) SUNGLASSES - gray color, medium	27.00	20.25		
	(OVERCAST POLARIZED) SUNGLASSES - 2 pairs, gray color	42.00	31.50		
00758	SUPER ABSORBABLE SOY ISOFLAVONES - 60 caps	28.00	21.00		
	SUPER ABSORBABLE SOY ISOFLAVONES - 4 bottles of 60 caps	100.00	75.00		
01408	SUPER SAW PALMETTO/NETTLE ROOT W/BETA-SITOSTEROL 60 softgels	28.00	21.00		
	SUPER SAW PALMETTO/NETTLE ROOT w/BETA-SITOSTEROL 4 bottles of 60 softgels	104.00	78.00		
	SUPER SAW PALMETTO/NETTLE ROOT w/BETA-SITOSTEROL One-year supply	288.00	216.00		
01407	SUPER SAW PALMETTO W/BETA-SITOSTEROL - 30 softgels	15.00	11.25		
	SUPER SAW PALMETTO W/BETA-SITOSTEROL - 12 bottles of 30 softgels	144.00	108.00		
00578	SUPER SELENIUM COMPLEX - 200 mcg, 100 caps	12.00	9.00		
	SUPER SELENIUM COMPLEX - 4 bottles of 100 caps	40.00	30.00		
	SUPER SELENIUM COMPLEX - 12 bottles of 100 caps	108.00	81.00		
00674	SYTRINOL™ - 60 softgels	32.00	24.00		
	SYTRINOL™ - 4 bottles of 60 softgels	112.00	84.00		
T					
	TAL • SHI™ COSMETICS • For information please call 1-800-544-4440 or visit www.lifeextension.com				
00199	TAURINE CAPSULES - 1000 mg, 50 caps	\$8.95	\$6.71		
	TAURINE CAPSULES - 4 bottles of 50 caps	32.00	24.00		
00133	TAURINE POWDER - 300 grams, powder	20.00	15.00		
	TAURINE POWDER - 4 bottles of powder	67.52	50.64		
01304	THEAFLAVIN STANDARDIZED EXTRACT - 30 veg. caps	18.00	13.50		
	THEAFLAVIN STANDARDIZED EXTRACT - 4 bottles of 30 veg. caps	64.00	48.00		
00555	(L) THEANINE - 100 mg, 60 caps	24.00	18.00		
	(L) THEANINE - 4 bottles of 60 caps	82.00	61.50		
01038	ATHERALAC - 30 caps	44.95	33.71		
00224	THYMIC IMMUNE FACTORS - 100 caps	18.00	13.50		
	THYMIC IMMUNE FACTORS - 4 bottles of 100 caps	56.00	42.00		
00668	(METABOLIC ADVANTAGE) THYROID FORMULA - 100 caps	17.95	13.46		
00349	TMG - 50 grams of powder	14.00	10.50		
	TMG - 4 bottles of powder	44.00	33.00		
00359	TMG TABLETS - 500 mg, 180 tablets	18.00	13.50		
	TMG TABLETS - 4 bottles of 180 tablets	62.00	46.50		
00366	TOCOTRIENOLS - 50 mg, 60 softgel caps	39.95	29.96		
	TOCOTRIENOLS - 4 bottles of 60 softgel caps	144.00	108.00		
00781	TOCOTRIENOLS WITH SESAME LIGNANS - 60 softgels	38.00	28.50		
	TOCOTRIENOLS WITH SESAME LIGNANS - 4 bottles of 60 softgels	144.00	108.00		
01400	(SUPER-ABSORBABLE) TOCOTRIENOLS - 60 softgels	30.00	22.50		
	(SUPER-ABSORBABLE) TOCOTRIENOLS - 4 bottles of 60 softgels	112.00	84.00		
01274	TOTAL SUN PROTECTION CREAM W/BETAGLUCANS - SPF 30, 4 oz Tube & PHOTO-AGING RECOVERY COMPLEX	28.00	21.00		
	TOTAL SUN PROTECTION CREAM W/BETAGLUCANS - 4-4 oz Tubes & PHOTO-AGING RECOVERY COMPLEX	100.80	75.60		
01468	TRIPLE ACTION CRUCIFEROUS VEGETABLE EXTRACT- 60 veg. caps	24.00	18.00		
	TRIPLE ACTION CRUCIFEROUS VEGETABLE EXTRACT-4 bot 60 veg. caps	88.00	66.00		
01469	TRIPLE ACTION CRUCIFEROUS VEGETABLE EXTRACT w/RESVERATROL - 60 veg. caps	32.00	24.00		
	TRIPLE ACTION CRUCIFEROUS VEGETABLE EXTRACT w/RESVERATROL - 4 bottles	118.40	88.80		
01046	TRIPLE ACTION UNDER EYE REJUVENATOR - 0.5 oz pump	24.00	18.00		
	TRIPLE ACTION UNDER EYE REJUVENATOR - 4 boxes	88.00	66.00		
00866	TRYPTOPURE® L-TRYPTOPHAN - 500 mg, 90 veg. caps	38.00	28.50		
	TRYPTOPURE® L-TRYPTOPHAN - 4 bottles of 90 veg. caps	136.00	102.00		

SUB-TOTAL OF COLUMN 17

MARCH 2010

* These products are not 25% off retail price.

No.		Retail	Member Price	Qty	Total
01202	(OPTIMIZED) TRYPTOPURE® PLUS - 90 veg. caps	\$40.00	\$30.00		
	(OPTIMIZED) TRYPTOPURE® PLUS - 4 bottles of 90 veg. caps	144.00	108.00		
00036	L-TYROSINE POWDER - 100 grams of powder	22.50	16.88		
	L-TYROSINE POWDER - 4 bottles of powder	80.00	60.00		
00326	L-TYROSINE TABLETS - 500 mg, 100 tablets	16.98	12.74		
	L-TYROSINE TABLETS - 4 bottles of 100 tablets	62.52	46.89		
00035	L-TYROSINE PLUS POWDER - 100 grams of powder	28.00	21.00		
	L-TYROSINE PLUS POWDER - 4 bottles of powder	98.00	73.50		
U					
* 00310	UDO'S CHOICE® - 17 oz liquid (omega fatty acids)	\$27.49	\$21.99		
* 00311	UDO'S CHOICE® - 1000 mg, 180 caps	33.79	27.03		
* 00322	UDO'S CHOICE® WHOLESOME FAST FOOD - 1 lb bottle	27.49	21.99		
V					
00213	VANADYL SULFATE - 7.5 mg, 100 tablets	\$15.00	\$11.25		
	VANADYL SULFATE - 4 bottles of 100 tablets	50.00	37.50		
01018	VASCULAR PROTECT - 120 vegetarian caps	48.00	36.00		
	VASCULAR PROTECT - 4 bottles of 120 vegetarian caps	180.00	135.00		
00252	VELVET DEER ANTLER - 250 mg, 30 caps	36.00	27.00		
	VELVET DEER ANTLER - 4 bottles of 30 caps	136.00	102.00		
00408	VENOTONE - 60 caps	18.95	14.21		
	VENOTONE - 4 bottles of 60 caps	64.00	48.00		
00427	VINPOCETINE - 5 mg, 100 tablets	18.00	13.50		
	VINPOCETINE - 4 bottles of 100 tablets	56.00	42.00		
01033	VISION OPTIMIZER - 90 caps	29.95	22.46		
01098	VITAL GREENS MIX - 319.5 grams of powder	48.00	36.00		
	VITAL GREENS MIX - 4 bottles of powder	176.00	132.00		
00091	VITAMIN B1 CAPS - 500 mg, 100 caps	15.50	11.63		
	VITAMIN B1 CAPS - 4 bottles of 100 caps	56.00	42.00		
00090	VITAMIN B1 POWDER - 100 grams of powder (Thiamin)	18.00	13.50		
	VITAMIN B1 POWDER - 4 bottles of powder	67.52	50.64		
00093	VITAMIN B2 CAPS - 100 mg, 100 caps	9.50	7.13		
	VITAMIN B2 CAPS - 4 bottles of 100 caps	35.00	26.25		
00092	VITAMIN B2 POWDER - 30 grams of powder	10.50	7.88		
	VITAMIN B2 POWDER - 4 bottles of powder	37.52	28.14		
00096	VITAMIN B3 (NIACIN) - 1000 mg, 100 caps	12.75	9.56		
	VITAMIN B3 (NIACIN) - 4 bottles of 100 caps	48.00	36.00		
00372	VITAMIN B3 (NIACIN) - 500 mg, 100 caps	7.65	5.74		
	VITAMIN B3 (NIACIN) - 4 bottles of 100 caps	26.60	19.95		
00094	VITAMIN B3 POWDER - 300 grams of powder	15.00	11.25		
	VITAMIN B3 POWDER - 4 bottles of powder	56.00	42.00		
00098	VITAMIN B5 CAPS - 500 mg, 100 caps (Pantothenic Acid)	10.50	7.88		
	VITAMIN B5 CAPS - 4 bottles of 100 caps	37.52	28.14		
00097	VITAMIN B5 POWDER - 100 grams of powder	15.25	11.44		
	VITAMIN B5 POWDER - 4 bottles of powder	55.00	41.25		
00556	VITAMIN B6 CAPS - 250 mg, 100 caps	12.50	9.38		
	VITAMIN B6 CAPS - 4 bottles of 100 caps	44.00	33.00		
00099	VITAMIN B6 POWDER - 100 grams of powder	24.50	18.38		
	VITAMIN B6 POWDER - 4 bottles of powder	88.00	66.00		
00361	VITAMIN B12 TABLETS - 500 mcg, 100 dissolve-in-mouth tablets	8.75	6.56		
	VITAMIN B12 TABLETS - 4 bottles of 100 dissolve-in-mouth tablets	29.00	21.75		
00144	VITAMIN B12 POWDER - 100 grams of powder	12.00	9.00		
	VITAMIN B12 POWDER - 4 bottles of powder	42.52	31.89		
00927	VITAMIN C WITH DIHYDROQUERCETIN - 1000 mg, 250 tablets	25.50	19.13		
	VITAMIN C WITH DIHYDROQUERCETIN - 4 bottles of 250 tablets	93.00	69.75		

SUB-TOTAL OF COLUMN 18

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

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00084	(BUFFERED) VITAMIN C POWDER - 454.6 grams of powder	\$23.95	\$17.96		
	(BUFFERED) VITAMIN C POWDER - 4 bottles of powder	88.00	66.00		
00864	VITAMIN D - 2000 IU, 1 fl oz	28.00	21.00		
	VITAMIN D - 4 bottles of 1 fl oz	100.00	75.00		
00251	VITAMIN D3 CAPS - 1000 IU, 250 caps	12.50	9.38		
	VITAMIN D3 CAPS - 4 bottles of 250 caps	45.00	33.75		
00713	VITAMIN D3 CAPS - 5000 IU, 60 caps	11.00	8.25		
	VITAMIN D3 CAPS - 4 bottles of 60 caps	39.60	29.70		
01418	VITAMIN D3 CAPS - 7000 IU, 60 caps	14.00	10.50		
	VITAMIN D3 CAPS - 4 bottles of 60 caps	50.40	37.80		
01371	VITAMIN D3 w/SEA-IODINE - 1000 IU, 250 veg. caps	22.00	16.50		
	VITAMIN D3 w/SEA-IODINE - 4 bottles of 250 veg. caps	80.00	60.00		
01372	VITAMIN D3 w/SEA-IODINE - 5000 IU, 60 veg. caps	14.00	10.50		
	VITAMIN D3 w/SEA-IODINE - 4 bottles of 60 veg. caps	50.00	37.50		
00063	VITAMIN E CAPS (NATURAL) - 400 IU, 100 caps	18.75	14.06		
	VITAMIN E CAPS (NATURAL) - 4 bottles of 100 caps	69.00	51.75		
	VITAMIN E CAPS (NATURAL) - 10 bottles of 100 caps	150.00	112.50		
00062	VITAMIN E POWDER (SYNTHETIC) - 300 grams of powder	28.95	21.71		
	VITAMIN E POWDER (SYNTHETIC) - 4 bottles of powder	100.00	75.00		
01225	(LOW-DOSE) VITAMIN K2 (MK-7) - 90 softgels	18.00	13.50		
	(LOW-DOSE) VITAMIN K2 (MK-7) - 4 bottles of 90 softgels	64.00	48.00		
Z					
00986	(SUPER) ZEAXANTHIN W/LUTEIN & MESO-ZEAXANTHIN - 60 softgels	\$22.00	\$16.50		
	(SUPER) ZEAXANTHIN W/LUTEIN & MESO-ZEAXANTHIN - 4 bottles	79.20	59.40		
01286	(SUPER) ZEAXANTHIN W/LUTEIN & MESO-ZEAXANTHIN - 60 softgels PLUS ASTAXANTHIN	42.00	31.50		
	(SUPER) ZEAXANTHIN W/LUTEIN & MESO-ZEAXANTHIN PLUS ASTAXANTHIN - 4 bottles of 60 softgels	152.00	114.00		
00152	ZINC GLUCONATE POWDER - 100 grams of powder	8.00	6.00		
	ZINC GLUCONATE POWDER - 4 bottles of powder	27.50	20.62		
00061	ZINC LOZENGES WITH VITAMIN C - 75 lozenges	9.50	7.13		
	ZINC LOZENGES WITH VITAMIN C - 4 bottles of 75 lozenges	27.00	20.25		
01051	ZYFLAMEND - 120 softgels	60.95	45.71		
01029	ZYFLAMEND EASYCAPS - 180 caps	31.95	23.96		

SUB-TOTAL OF COLUMN 19

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Scientific Advance in Skin Protection

Now you can help repair aging and damaged skin in a way never before possible. Dermatologist Gary Goldfaden, MD, introduces a new skin-rejuvenating formulation that harnesses the power of plant stem cells.

Skin Stem Cell Serum is a topical liposomal preparation that contains stem cells of a rare Swiss apple tree cultivated for its remarkable storage longevity. *In vitro* studies using these plant stem cells have shown promise in unlocking the regenerative capacity of human skin cells.

Skin Stem Cell Serum also contains a special seaweed extract that has exceptional emollient properties. Additional anti-aging ingredients found in this novel formulation include hyaluronic acid,

noted for its outstanding moisturizing effect, and a concentrated antioxidant tea blend to help fight skin-damaging free radicals. The result is younger-looking skin as **Skin Stem Cell Serum** reduces the appearance of wrinkles, delays senescence of essential cells, and provides additional protection for skin cells against the aging effects of ultraviolet light.

Now you can preserve the youthful look and vitality of your skin. A one-ounce bottle of **Skin Stem Cell Serum** retails for \$69. If a member buys two bottles, the cost is only **\$48 per bottle**.



Item #80130

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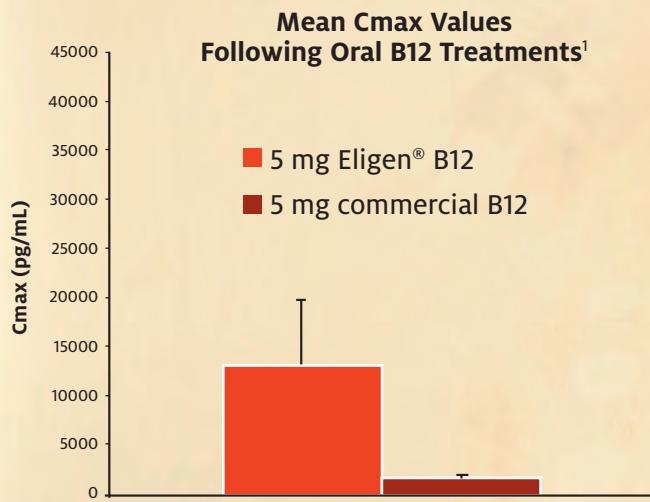
ABSORPTION

Insufficient levels of the essential vitamin B12 in the body can lead to *transitory memory loss, weakness, and fatigue*. These **debilitating** symptoms become more common as people age due to difficulties absorbing the vitamin from food. Those at risk for a deficiency often endure **inconvenient injections** to increase their blood concentration of vitamin B12.

Eligen® B12 is designed to overcome these hurdles with a patented **rapid absorption** system that delivers a peak concentration of B12 into the bloodstream *within just 30 minutes* — a staggering improvement over the **6.8 hour** absorption time of standard B12 tablets.¹ This enhanced bioavailability ensures optimum B12 blood levels.

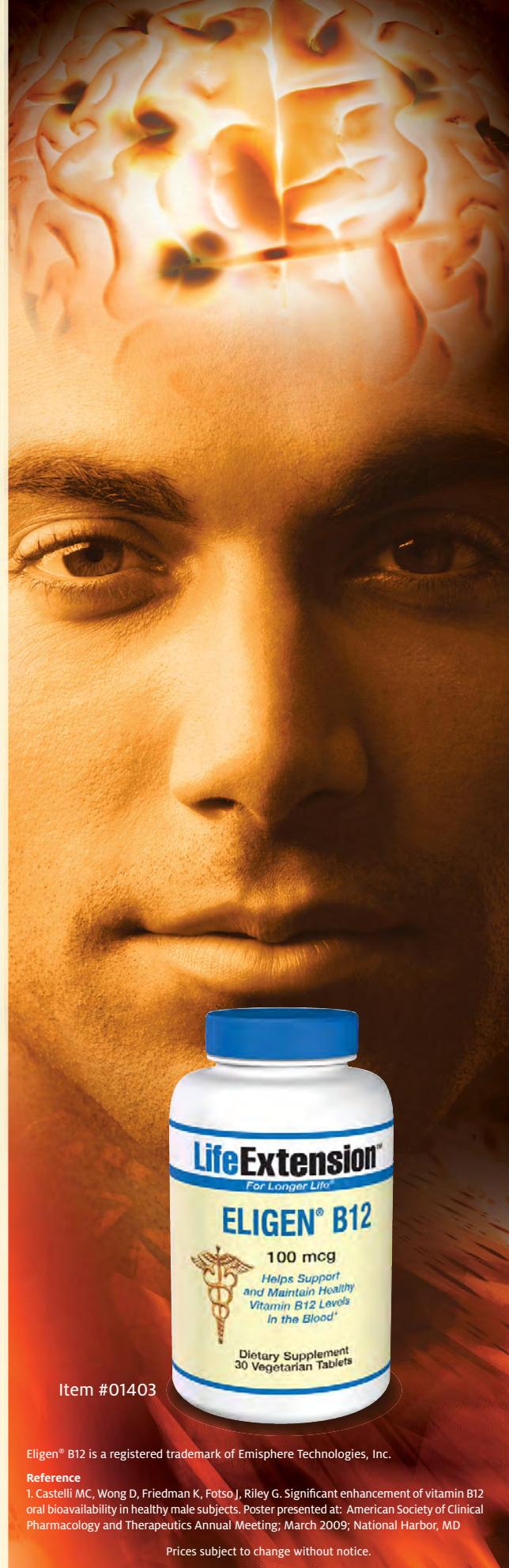
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Using cutting-edge technology, **Eligen® B12** utilizes a special carrier known as SNAC (sodium N-[8-(2-hydroxybenzoyl) amino] caprylate) to **facilitate the delivery** of B12 molecules through passive transport. The carrier *changes* the permeability and fluidity of the gastric epithelium, making it more permeable for vitamin B12, leading to **incredibly higher absorption rates**.



Those who want to obtain the benefits of B12 in this highly absorbable form can order **Eligen® B12**. Each tablet contains 100 mcg of vitamin B12 and retails for \$28 per 30-tablet bottle. When a member buys four bottles, the price is reduced to only **\$18.75**.

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Item #01403

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Reference

1. Castelli MC, Wong D, Friedman K, Fotso J, Riley G. Significant enhancement of vitamin B12 oral bioavailability in healthy male subjects. Poster presented at: American Society of Clinical Pharmacology and Therapeutics Annual Meeting; March 2009; National Harbor, MD

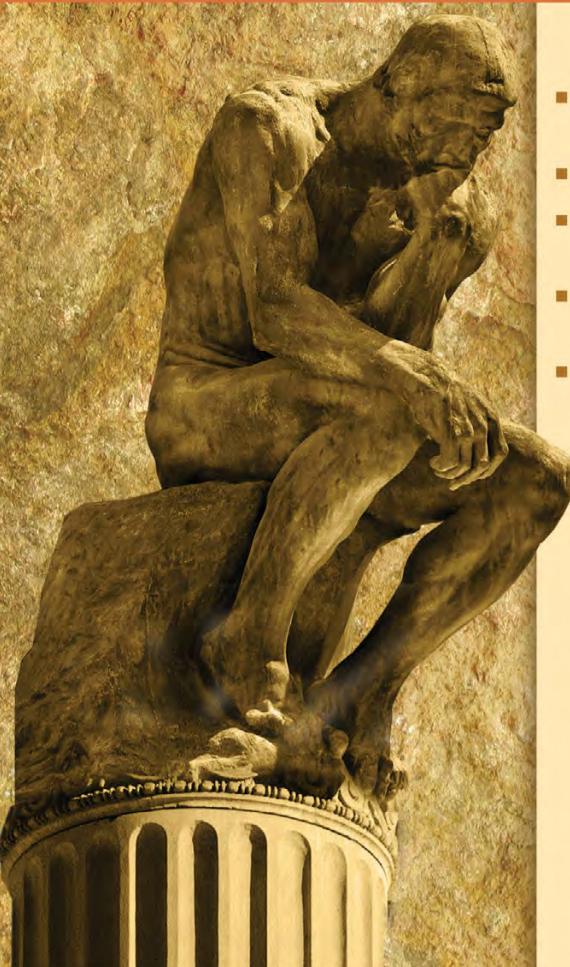
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NEW TRIPLE ACTION CRUCIFEROUS Vegetable Extract with Apigenin

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

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

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

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



ITEM #01468



ITEM #01469

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

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

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

REFERENCES:

1. *Biochem Pharm.* 2002; 64:393-404.
2. *Toxicol Appl Pharm.* 2001 Jul 15;174(2):146-52.
3. *J Natl Cancer Inst.* 1997 May 21;89(10):718-23.
4. *Cancer Detect Prevent.* 2004;28:72-9.
5. *Carcinogenesis.* 2002 Apr;23(4):581-6.
6. *Mol Cancer Ther.* 2003 Oct;2(10):1045-52.
7. *Carcinogenesis.* 1998 Oct;19(10):1821-7.
8. *Carcinogenesis.* 1995 Sep;16(9):2057-62.
9. *J Clin Biochem Nutr.* 2009 May;44(3):260-5.
10. *Food Chem Toxicol.* 2008 Jul;46(7):2358-64.

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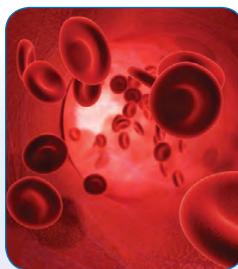
LifeExtension® Magazine

REVERSING ATHEROSCLEROSIS



HDL cleanses plaque from aging arteries. Scientists have uncovered an *enzyme* that plays a crucial role in maintaining HDL's beneficial action. Most **Life Extension®** members already take nutrients that *increase* levels of this enzyme, helping slow and even reverse atherosclerosis.

LOWER YOUR CHOLESTEROL SAFELY



Substantial research is presented that certain nutritional compounds are as effective as statin drugs in lowering dangerous LDL. These natural approaches offer the advantage of simultaneously reducing **triglycerides** and elevating beneficial **HDL**.

HOW MUCH FDA ABUSE CAN AMERICANS TOLERATE?



Governments collapse when **ineptitude** and **corruption** reach such egregious magnitudes that the citizenry has no choice but to **revolt**. A new exposé of bureaucratic bumbling at the **FDA** calls into question its ability to scientifically evaluate drug safety and efficacy.

OPTIMAL ARTHRITIS CONTROL



Rheumatoid arthritis inflicts *system-wide* damage to the body. Arthritis sufferers, for example, are at **60%** greater risk of dying of heart disease than the general population. New research reveals the power of novel natural agents to disrupt this deadly process.

PLUS

NATURAL HYPERTENSION MANAGEMENT

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