

SAVING "TERMINAL" CANCER PATIENTS

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LifeExtension®

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

October 2014

FIGHT BACK AGAINST Assembly Line Medicine

**Carbohydrates
Sharply Increase
Breast Cancer Risk**

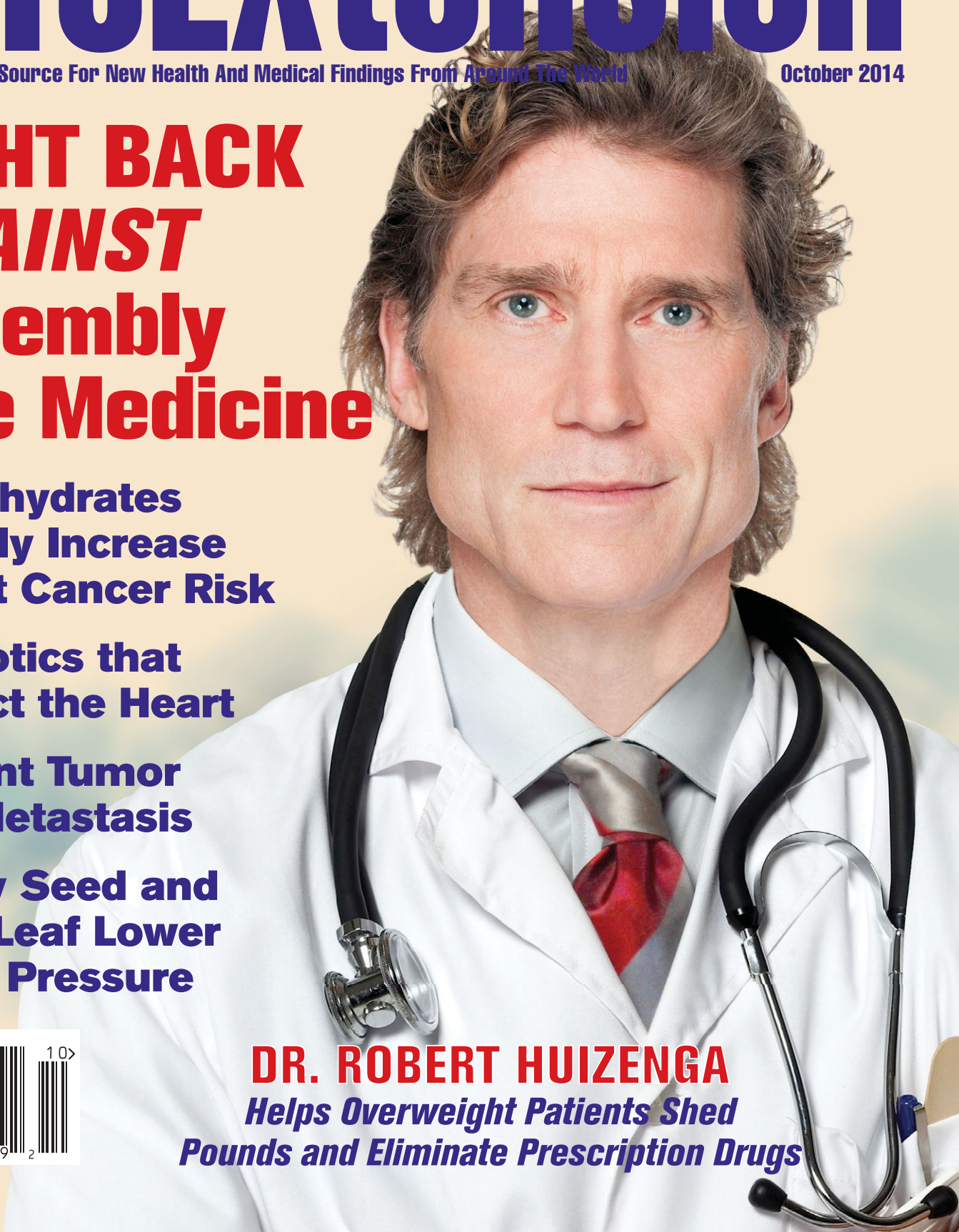
**Probiotics that
Protect the Heart**

**Prevent Tumor
Cell Metastasis**

**Celery Seed and
Olive Leaf Lower
Blood Pressure**



DR. ROBERT HUIZENGA
*Helps Overweight Patients Shed
Pounds and Eliminate Prescription Drugs*



THE POWER OF

Curcumin + Ginger



Item# 01808

HOW MUCH CURCUMIN ARE YOU ABSORBING?

Derived from the Indian spice turmeric, **curcumin** is acclaimed for its wide range of health-promoting effects on almost every organ system,¹⁻⁶ while supporting the body's healthy inflammatory response.⁷

Most **curcumin** extracts are neither well absorbed nor well retained in the body.

Advanced Bio-Curcumin® with Ginger & Turmerones contains **BCM-95®**, a patented, bioenhanced preparation of curcumin that has been shown to reach up to **7 times higher** concentration in the blood than standard curcumin.⁸ In addition to the benefits of **BCM-95®** this advanced formula provides:

- **Turmerones:** botanical compounds that remain after curcumin is extracted, enhancing curcumin absorption and increasing the amount of curcumin inside cells.⁹
- **Ginger:** a close relative of curcumin with overlapping, complementary health benefits.
- **Phospholipids:** an emulsifying molecule that greatly enhances absorption.¹⁰

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

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

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

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

Contains soybeans.

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- Caution:** Do not take if you have gallbladder problems or gallstones. If you are taking anticoagulant or antiplatelet medications, or have a bleeding disorder, contact your healthcare practitioner before taking this product.

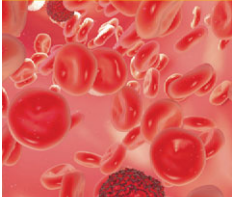
To order Life Extension® Advanced Bio-Curcumin® with Ginger & Turmerones,
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REPORTS

**32 CARBOHYDRATES SHARPLY INCREASE BREAST CANCER RISK**

A new study published in *Cancer Epidemiology*, shows that carbohydrates dramatically increase the risk of breast cancer. Fortunately, there are ways to protect your body from acute carbohydrate exposure while inhibiting cancer-promoting growth factors.

**44 PROBIOTIC TARGETS CARDIOVASCULAR DISEASE**

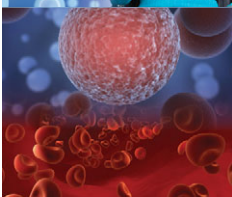
Advanced research has shown that a specific strain of **probiotic** can improve cardiovascular health in novel ways.

**56 TWO NATURAL PLANT EXTRACTS LOWER BLOOD PRESSURE**

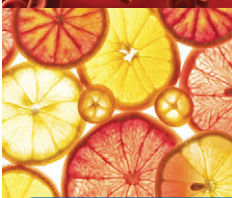
Researchers have discovered two natural compounds that combat high blood pressure via different mechanisms. **Olive leaf extract** provides *ACE-inhibiting* effects, while **celery seed extract** provides potent *calcium channel blocking* properties. Clinical studies demonstrate that both extracts safely lower blood pressure—without adverse effects.

**68 INNOVATIVE AND PERSONALIZED CANCER TREATMENT**

Every cancer case is different and can't be effectively treated by a "one-size-fits-all" approach. The **International Strategic Cancer Alliance (ISCA)** provides patients with personalized case management that includes customized plans comprised of approved therapies, experimental drugs, advanced diagnostics, hormone modulation, and nutritional support.

**74 FIGHTING PANCREATIC CANCER**

Pancreatic cancer kills almost 40,000 Americans a year, yet treatments have failed to improve survival much over the past 50 years. This case history describes an advanced pancreatic cancer patient who turned to the **International Strategic Cancer Alliance** for guidance and has far outlived the expectations of conventional medicine.

**82 WHY SOME PEOPLE NEED MODIFIED CITRUS PECTIN**

A little-known molecule produced in our bodies called **galectin-3** has been found to play a causative role in heart failure, cancer, and kidney disease. As drug companies search for a solution, scientists have discovered that **modified citrus pectin**, derived from the pith of citrus fruits, can *inhibit* galectin-3, blocking its ability to send destructive molecular signals.

**7 ON THE COVER****ASSEMBLY LINE MEDICINE**

Cancer patients are being deprived of lifesaving therapies by oppressive bureaucracy, physician apathy, insurance company denials, and inflated medical costs. Find out how cancer victims can circumvent today's backwards oncology system to improve their odds of long-term survival.

DEPARTMENTS

**25 IN THE NEWS**

Metformin associated with a **25%** reduction in glaucoma; intravenous vitamin C inhibits Epstein-Barr; fasting triggers stem cell regeneration; omega-3 supplements reduce tobacco cravings; low vitamin D levels linked to higher HIV progression; soy isoflavone inhibits prostate cancer metastasis; and more.

97 WELLNESS PROFILE

Best-selling author and medical director of the TV show *The Biggest Loser*, Dr. Robert Huizenga believes that **80%** of all diseases and medications can be eliminated through shedding excess weight and effective exercise.





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THE NEXT OMEGA...

Are You Getting Your OMEGA-7?

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

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

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

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

Unique Cell-Signaling Support

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

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

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

Advanced Purified Omega-7

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

Convenient One-Per-Day Dosing

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

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

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

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

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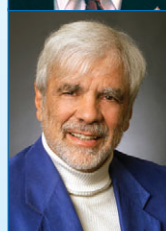
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Life Extension® has created a high-potency, standardized **98% polyphenol green tea extract**. These highly concentrated **Mega Green Tea Extract Capsules** contain **725 mg** of either lightly caffeinated or decaffeinated **98%** standardized green tea extracts.

The retail price for **100** vegetarian capsules of **Mega Green Tea Extract** is **\$30**. If a member buys four bottles of **725 mg Mega Green Tea Extract** capsules, the price is reduced to **\$18 per bottle**. Each bottle will last over **three months** at the typical dose of one capsule daily. So the monthly cost to members is only **\$5.45**—an incredible value!

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Assembly Line Medicine



BY WILLIAM FALOON

People fear **cancer** more than any other disease—and for good reason.

Upon diagnosis, a patient is often given several treatment choices. None guarantees a **cure**, but all tend to inflict pain, immobility, mutilation, debilitation, risk of secondary complications (like stroke), and risk of secondary cancers (like leukemia).

Enlightened individuals face a particular degree of anxiety. They've heard about *less* toxic treatments that may be *more* effective. They often worry they are missing out on a curative therapy because of constraints placed on physicians by today's bureaucratic medical system that fosters inefficiency and mediocrity.

We at **Life Extension®** have long been aware of serious gaps that exist between what is discovered by cancer researchers and what is delivered to patients in the clinical oncology setting. When advanced cancer patients send us their medical records, we almost always identify treatment **omissions** that could have markedly improved odds of remission, improved survival, and even offered a cure.

One example is a drug called **cimetidine**. It functions via several mechanisms to inhibit **metastasis** and improves survival in **colon cancer** patients.¹⁻⁸ In **2002**, results from a clinical trial on patients with an aggressive form of colon cancer were published in the **British Journal of Cancer**. Compared to controls, 10-year survival improved by a remarkable **2.7-fold** in the group receiving **cimetidine**.⁴

Life Extension® has been recommending **cimetidine** since **1985** for certain types of cancer. Not once have we had a cancer patient approach us who had been prescribed this nontoxic drug by their oncologist.

An **oncologist** is a physician who specializes in the diagnosis, evaluation, and treatment of those afflicted with cancer. Cancer patients rely on their oncologist to utilize the best therapies to meet their individual needs. Regrettably, "managed care" has diluted the quality of care provided by many oncologists.

In a stunning new development, a health insurance company is offering oncologists **\$350/month** for each patient that is put on the company's **recommended regimen**.⁹ This will enable the insurance company to control treatment-related expenses of cancer patients, who will be afforded less individualized, creative, and comprehensive care.

In this month's issue, we reveal how to circumvent this backwards approach to **cancer treatment**.



Within **24 hours** of you reading this article, **1,500** Americans will perish from cancer.¹⁰ There will be no sensational media accounts of these travesties, just more statistics to confirm the grim failure of mainstream medicine to find cures for this epidemic killer.

We at **Life Extension®** have never ignored the threat that cancer poses to healthy longevity. Yet many people today are in a state of denial, as if this insidious disease only afflicts others.

The news media redundantly covers details of traumatic deaths such as airline crashes and terrorist attacks. My reaction to these headline news stories is that the number of victims pales in comparison to the estimated **585,000** Americans that die from **cancer** every year.¹¹

As I wrote in a **2004** article titled “**Are You Afraid of Terrorists?**” over **2.4 million** Americans die each year mostly from age-related disease. Yet one terrorist attack dominates media coverage.¹²

So here we are 10 years later, and terrorists have killed less than

100 people in the United States. The death toll from **cancer** in that same time period is around **5.8 million**. One could argue from a mathematical standpoint that violent death threats could be disregarded and resources instead poured into more efficient cancer research.

My personal views don’t directly relate to what you are about to read, but may help you understand how committed we are to eradicating **cancer** in the same way that **smallpox** was last century.

The Basics About Cancer Treatment

There are some basic rules about cancer that everyone should know.

When it comes to achieving a “cure,” the best opportunity exists at the time of first treatment. Once tumor cells have been exposed to initial therapies, or one’s immune system has been compromised by surgical trauma, a malignancy

can proliferate out of control and resist secondary therapeutic attempts.¹³⁻²⁰

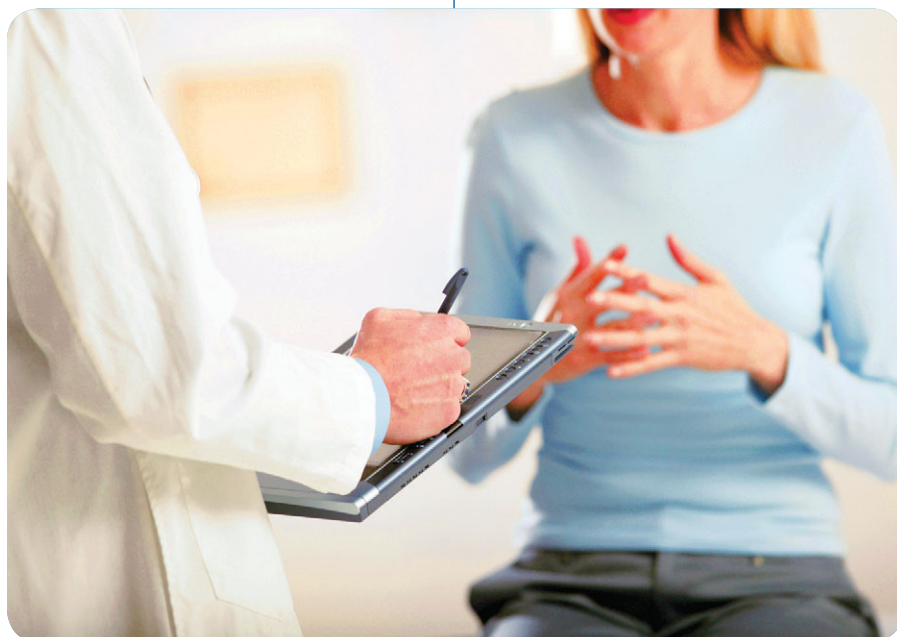
The best shot for a cure thus involves an individualized, multi-pronged plan of action to:

- Eradicate the primary tumor;
- Decrease fuels that feed metastatic growth;
- Turn off stimuli that encourage cancer stem cell proliferation;
- Block the escape routes used by residual cancer cells.

Some people erroneously believe they must try to eradicate their tumor immediately. A more intelligent approach is to take the time needed to:

- Ensure that the stage or extent of the tumor is within the boundaries of any ablative therapy (such as surgery or radiation);
- Investigate every mechanism an individual’s cancer will use to ensure its survival;
- Then introduce agents into the treatment protocol to circumvent each of these tumor survival factors.

What I’m conveying here is that newly diagnosed cancer patients should take advantage of the relatively vulnerable nature of their “**treatment-naïve**” tumor to implement a plan that addresses a wide range of escape routes that tumor cells utilize upon exposure to radiation, chemotherapy, hormone blockade, and even surgery.²¹⁻²⁵ To provide real world examples of this strategy being put into action, you’re going to read about some remarkable case histories in this month’s issue.



Immune Status Should Be Assessed In All Cancer Patients

Once a tumor is established, it is difficult for the **immune system** to eradicate it.²⁶⁻²⁹ That's why mainstream oncologists pay little attention to the immune status of their newly diagnosed patients. In other words, since bolstering **immune function** alone won't cure cancer, oncologists mistakenly think it is not of major importance.

Newly diagnosed patients often present with poor immune status even before immune-damaging chemotherapy, radiation, and/or surgery are initiated.³⁰⁻³³

Optimizing immune function prior to initiation of cancer treatment can be a critical component of comprehensive therapy with curative intent.^{12,34-37} This involves in-depth **immune profile** blood testing and when indicated, precise administration of expensive drugs like **interleukin-2**,^{12,38-46} **filgrastim** (*Neupogen*®),^{47,48} **pegfilgrastim** (*Neulasta*®),⁴⁹⁻⁵⁸ and/or **sargramostim** (*Leukine*®).⁵⁹⁻⁶²

Health insurance companies are trying to reduce the cost of cancer care and would rather patients not know about the need to optimize immune function before, during, and after toxic therapies are administered.⁶³ The high cost of implementing comprehensive immune support is causing insurance companies to refuse to pay for it.

A large health insurance company is offering oncologists **\$350/month per patient** as a reward to channel treatment towards the insurance company's "**recommended regimen**." We believe this will result in cancer patients dying sooner and using up fewer resources in the process.⁸ Oncologists

following these cookbook protocols will be able to squeeze far more patients into their hurried schedules.

Under this new scheme whereby oncologists are paid **\$350/month** for each patient placed on the "**recommended regimen**," insurance companies benefit financially, while patients are largely confined to chemo drug protocols that provide relatively minimal survival improvement in treating metastatic disease.

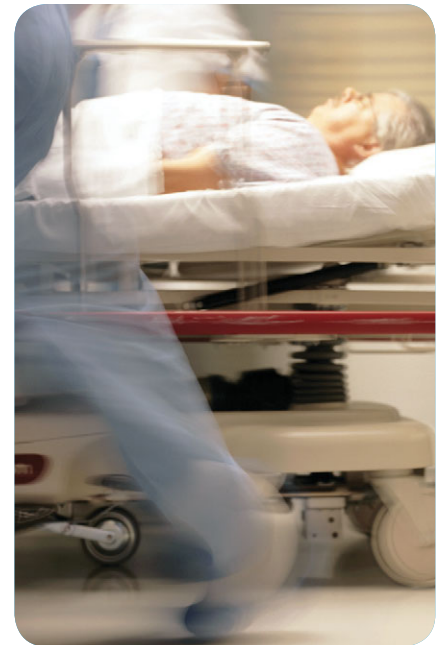
Impact Of Surgery On Immune Function

The first line of defense against malignancy is our **natural killer cells** (NK). Young individuals have high levels of functional natural killer immune cells, but this declines with aging.⁶⁴⁻⁷²

Natural killer cells originate in the bone marrow (like other immune cells) and go through a maturation process that enables them to participate in early control of microbial infections and cancers.⁷³⁻⁷⁶

In a study examining NK cell activity in women shortly after surgery for breast cancer, it was reported that low levels of NK cell activity were associated with an increased risk of death from breast cancer.⁷⁷ In fact, reduced NK cell activity was a better predictor of survival than the actual stage of the cancer itself. In another study, colon cancer patients with reduced **NK cell activity** before surgery had a **350% increased** risk of metastasis during the following 31 months.⁷⁸

The likelihood of surgery-induced metastasis requires a cancer patient's immune system to be highly active and vigilant in seeking out and destroying



renegade tumor cells immediately before, during, and after surgery. Numerous studies document that cancer surgery results in substantial reduction in **NK cell activity**.⁷⁹⁻⁸² In one investigation, NK cell activity in women having surgery for breast cancer was reduced by over 50% on the first day after surgery.⁸¹ A group of researchers stated that, "**We therefore believe that shortly after surgery, even transitory immune dysfunction might permit neoplasms [cancer] to enter the next stage of development and eventually form sizable metastases.**"⁸⁰

We know cancer surgery reduces NK activity. This means that NK cell activity becomes impaired when it is most needed to fight metastasis. With that said, the preoperative and perioperative periods present a window of opportunity to actively strengthen immune function by enhancing NK cell activity. Fortunately, validated interventions to enhance **NK cell activity** are available to the person undergoing cancer surgery.

While there are nutrients that can boost NK function, many cancer patients would benefit enormously with individualized courses of drugs like **interleukin-2** (IL-2) and **Leukine**®.

IL-2 directly promotes **NK function**,⁸³⁻⁸⁵ while **Leukine**® induces bone marrow production of **macrophages**.⁸⁶⁻⁸⁸ Since these drugs are expensive, insurance companies will often refuse to pay for them as they are not approved by the FDA for the creative interventions that published studies show may be effective.

How Off-Label Drugs Save Lives

In the world of conventional oncology, FDA-approved drugs are routinely and legally prescribed for “unapproved uses” to better treat the disease.^{89,90} This is often referred to as using drugs “**off-label**.”

A 2008 study found that eight out of 10 oncologists surveyed had used drugs off-label.⁹¹ Studies have reported that about *half* of the chemotherapy drugs prescribed are for conditions not listed on the FDA-approved drug label.⁹² The **National Cancer Institute** has stated, “*Frequently the standard of care for a particular type or stage of cancer involves the off-label use of one or more drugs.*”⁹²

Off-label drug use in many cases is the genesis of innovation. It enables oncologists to use their training and experience to design creative therapeutic protocols based on new scientific findings. When favorable results are found, the protocol may be published in medical journals so that other oncologists can emulate the treatment successes.



The problem for health insurance companies is that cancer drugs are outlandishly priced, sometimes costing over **\$100,000 each per patient**.⁹³⁻⁹⁵ Insurance companies don't want to bear the costs associated with creatively designed treatments. They want to limit their expenses by confining oncologists to chemo drugs that provide relatively little survival improvement in advanced-stage cancers.⁶³

This helps explain why one insurance company is offering oncologists **\$350/month per patient** to not prescribe drugs beyond the insurance company's “**recommended regimen**.”⁹⁶

Other health insurance companies are doing it differently by reimbursing oncologists less money when they prescribe newer, more expensive cancer drugs.⁹⁷

Not All Off-Label Drugs Are Expensive

Some of the most effective **off-label** drugs are affordable out-of-pocket (without insurance company involvement). The problem occurs when oncologists are being paid (**\$350/month**) to only offer an insurance company's “**recommended regimen**.” This creates a disincentive to utilize Herculean initiatives to ensure their patients receive **every** therapy that could optimize outcomes

with the goal of inducing a complete remission; in other words, the complete disappearance of all manifestations of the cancer.

From our review of the scientific literature spanning decades, many cancer patients would benefit by taking **aspirin**⁹⁸⁻¹⁰⁰ and the antidiabetic drug **metformin**.¹⁰¹⁻¹¹⁵ Aspirin of course is readily accessible, but cancer patients are unlikely to use it if their oncologist does not recommend it.

Metformin requires a prescription, and if the insurance company catches the oncologist prescribing metformin, which is not part of the “**recommended regimen**,” the oncologist might lose the **\$350/month** stipend for that patient.

Even the use of **aspirin** requires the oncologist's involvement as chemo patients whose platelet count is reduced to fewer than **100 x 10E³/uL** are at risk for hemorrhage.¹¹⁶⁻¹¹⁹ Under these circumstances, aspirin should be deferred until platelet counts are restored.

There are numerous off-label drugs effective against certain cancers (such as COX-2 inhibitors, certain statins, hormone modulators, etc.) that require a prescription, yet we are rapidly regressing to a system where medical decision making is dictated by insurance company cost mandates and not physician dedication and experience.

The Insurance Company's "Recommended Regimen"

The chemotherapy drugs that insurance companies want oncologists to prescribe represent the most commonly used drugs in the industry and can be viewed as aggressive "cookbook medicine approach" treatments. Some of drugs listed, such as **Adriamycin®**, are being limited by several oncologists at major medical institutions, such as MD Anderson, for use in adjuvant settings due to excessive toxicity.¹²¹⁻¹²³

Progressive oncologists, with whom **Life Extension®** is working, are using **mitoxantrone** instead of **Adriamycin®** in their elderly patients since it has the same survival rate as **Adriamycin®**, but is less toxic to the heart.¹²⁴⁻¹²⁶

Oncologists will be paid **\$350/month per patient** by one insurer to prescribe chemo drugs such as **Adriamycin®**, which was approved by the FDA in **1974**. Another insurer is offering higher reimbursement to the oncologist when lower-cost chemo drugs are used.

All these chemo drugs are considered standard of care by the **National Comprehensive Cancer Network**, which is an alliance of 25 cancer centers in the United States, most of which are designated by the **National Cancer Institute** as comprehensive cancer centers.

Health insurance companies reward practicing oncologists for following the standard published protocols that minimize creative approaches for cancer treatment.

Perhaps the greatest failing of the chemo drugs that insurers are paying oncologists to prescribe is that they seldom **cure** advanced-stage cancers. Despite widespread availability of these chemo drugs,

metastatic **lung cancer** kills **98%** of patients within five years.¹²⁷ Metastatic **colon cancer** kills **94%** within five years.¹²⁸ Those afflicted with metastatic **breast cancer** fare better, but **78%** still die within five years.¹²⁹

Clinical oncology practice clearly needs more innovation—yet health insurance companies are providing financial incentives for physicians to prescribe chemo drugs that fail to cure advanced-stage patients. This kind of backwards approach to treatment will stifle the discovery of breakthroughs so desperately needed to spare the lives of more than **585,000** Americans who perish from cancer annually.

I'm purposely leaving the names of the insurance companies out of this article because it is likely that other insurers will follow this pattern of scientific

regression. What we are witnessing is clinical oncology practice being driven backwards by outlandish drug prices, along with the high cost of increased physician involvement when aggressive therapies are utilized.

Health insurance companies argue their "recommended regimens" will improve patient care. We at **Life Extension®** disagree and advocate that more (not fewer) individualized, creative, and comprehensive treatment approaches could spare numerous lives.

How Positive Responses To Cancer Therapy Are Defined

- **Partial remission (PR)** indicates **50%** or greater reduction in all measureable evidence of tumor dimensions and tumor markers.
- **Complete remission (CR)** indicates a disappearance of all measureable indicators of tumor activity.
- **Cure** indicates complete disappearance of all manifestations of disease activity that is sustained over years and insures a high probability that the disease will not return.

Cancer Patients Can Derive Survival Benefits when Adjuvant Therapies are Combined with Conventional Treatments

The Problem With Cytotoxic (Chemotherapy) Drugs

When **chemotherapy** drugs were developed in the **1950s** to **1970s**, there was optimism that a pharmaceutical cure for cancer might soon be found.

These chemo drugs killed cancer cells in the petri dish and shrank tumors in cancer patients. The side effects, however, were horrific and survival improvements were negligible for most solid malignancies.

Medical oncologists are now being offered **\$350/month per patient** to prescribe **chemo drugs** that, in some cases, were introduced before many of you reading this article were born.

There are drugs in the insurance company's "**recommended regimen**" that are new and considered cutting-edge, but provide *average* survival improvements often measuring less than one year.

In the **May 21, 2014**, edition of the *Journal of the American Medical Association*, a study was published showing that **lung cancer** patients survived **1.1 years longer** when aggressive genomic testing was done and drugs that specifically target an individual tumor are added to standard chemo regimens.¹²⁰ These newer drugs target what's known as "oncogenic drivers," which are genetic abnormalities critical for tumor development and maintenance. The survival improvement in response to these "targeted" therapies is certainly welcomed news, but a far cry from a cure. The side effects from these newer cancer drugs are similar to old-line chemo drugs, meaning the patients endure significant suffering in exchange for added time.

Our scientific understanding of **molecular oncology** has grown exponentially over the past 40 to 50 years, yet relatively little of this knowledge is being delivered to the cancer patient. Clinical oncology practice, in fact, has progressed so slowly that many old-line chemo drugs are still considered first-line therapy at cancer institutions today, despite their failures to produce cures in the majority of advanced cases.

The problem is that consumers with **health insurance** may not have a choice. If their oncologist follows the insurers "**recommended regimen**," they will be prescribed chemo drugs that have historically provided relatively minimal survival improvement. These patients might better benefit from creative therapies that health insurance companies now balk at paying for.

On the right side column is a list of **chemotherapy** drugs that one insurance company wants most of its insured customers restricted to, along with the dates of each drug's approval and how many years each of these drugs has been in use.

Some of these drugs were approved more than 60 years ago. That does not mean they are not still useful against certain malignancies. The invariable question is whether certain patients who would benefit from more comprehensive and creative approaches will instead be prescribed these "**standard-of-care**" drugs because of the financial incentives being offered to oncologists.

To receive their **\$350/month stipend per patient**, oncologists have to stay with the insurance company's "**recommended regimen**" for that patient. This financial incentive comes to **\$4,200 a year** per patient treated following the insurer's protocol!

| Drug Name | Approval Date | Years In Use |
|--|--|--------------|
| Leucovorin | June 20, 1952 | 62 |
| Cyclophosphamide (Cytoxan®) | November 16, 1959 (Manufacturing changes in 1976, 1977, 1979, 1984, 1987, 2000) Cytoxan® (lyophilized) equivalent | 55 |
| Fluorouracil (5-FU) | April 25, 1962 | 52 |
| Doxorubicin HCL injectable (Adriamycin®) | August 7, 1974 | 39 |
| Cisplatin (Platinol®) | December 19, 1978 | 35 |
| Carboplatin (Paraplatin®) | March 3, 1989 | 25 |
| Paclitaxel (Taxol®) | December 29, 1992 (Manufacturing change or addition 1993, 1994, 1997, 1998, 2001) | 21 |
| Vinorelbine (Navelbine®) | December 23, 1994 | 19 |
| Docetaxel (Taxotere®) | May 14, 1996 | 18 |
| Gemcitabine (Gemzar®) | May 15, 1996 | 18 |
| Irinotecan (Camptosar®) | June 14, 1996 | 18 |
| Capecitabine (Xeloda®) | April 30, 1998 | 16 |
| Trastuzumab (Herceptin®) | September 25, 1998 (Manufacturing change 2012) | 15 |
| Epirubicin (Ellence®) | September 15, 1999 | 14 |
| Oxaliplatin (Eloxatin®) | August 9, 2002 | 11 |
| Pemetrexed (Alimta®) | February 4, 2004 | 10 |
| Bevacizumab (Avastin®) | February 26, 2004 | 10 |
| Erlotinib (Tarceva®) | November 18, 2004 | 9 |
| Panitumumab (Vectibix®) | September 27, 2006 | 7 |
| Lapatinib (Tykerb®) | March 13, 2007 | 7 |
| Pertuzumab (Perjeta®) | June 8, 2012 | 2 |
| Regorafenib (Stivarga®) | September 27, 2012 | 1 |
| Ado-trastuzumab emtansine (Kadcyla®) | February 22, 2013 | 1 |
| Afatinib (Gilotrif®) | July 12, 2013 | 1 |
| Average age of chemo drug | | 19 |



Most Effective Brain Tumor Drug Not Approved To Treat Any Cancer

Perhaps the most frightening **malignancy** one can be diagnosed with is a form of **brain cancer** called **glioblastoma**. This type of brain cancer has a **dismal prognosis**, with median overall survival of **12 to 14 months**, and a two-year survival rate of **15 to 26%**.¹³¹

Senator Ted Kennedy was diagnosed with **glioblastoma** in **May 2008**. Despite intervention by some of the best brain tumor experts, Kennedy died in **August 2009**—a mere **15 months** later.

A study published in the *New England Journal of Medicine* on September 5, 2013, may represent the **most significant advance** yet discovered in treating **glioblastoma**.¹³¹

What follows is an overview of a drug that is not approved to treat any cancer, and thus is likely to be **rejected** by insurance company mandates:

- **Valganciclovir** (Valcyte®) is an FDA-approved drug used to treat **cytomegalovirus** infection.
- **Cytomegalovirus** has been suspected as facilitating the initiation and promotion of brain cancers.¹³²⁻¹³⁵ Some **50 to 80%** of adults in the US show exposure to **cytomegalovirus**, but relatively few harbor active viral infection.¹³⁵

- Doctors followed 75 **glioblastoma** patients and found the median overall survival of those with **low-grade cytomegalovirus** infection was **33 months**. In patients with **high-grade cytomegalovirus** infection, median overall survival was **13 months**.¹³¹
- All but one of the 75 **glioblastoma** patients studied had **active cytomegalovirus** infection, indicating that this virus may be involved in the development of this lethal malignancy.¹³¹
- In **glioblastoma** patients with **high-grade cytomegalovirus** infection, median **two-year survival** was **17.2%**. Patients with **low-grade cytomegalovirus** infection had median two-year survival rates of **63.6%**.¹³¹ This suggests that high-grade, active **cytomegalovirus** infection accelerates tumor progression.
- In a double-blind clinical trial of **valganciclovir** involving 42 patients with **glioblastoma**, an exploratory analysis of 22 patients receiving at least six months of antiviral therapy showed **50%** overall survival at two years compared with **20.6%** of contemporary controls.¹³¹ This study showed that **valganciclovir**-treated patients had a median overall survival of **24.1 months** compared to **13.7 months** in patients not treated with **valganciclovir**.

- Owing to the promising results of this pilot study, physicians at the world-famous **Karolinska University Hospital** administered **valganciclovir** to **glioblastoma** patients and results were then compared to a control group. Both groups received standard conventional therapy and both groups had a similar disease stage and surgical-resection grade.
- The researchers retrospectively analyzed the data on 50 of these brain cancer patients and found the two-year rate of survival in the **valganciclovir** group was **62%**, whereas two-year survival was only **18%** in the **control group**.¹³¹
- In 40 **glioblastoma** patients who received **valganciclovir** for at least six months, the two-year survival rate was **70%**, with a median overall survival of **30.1 months**.¹³¹
- In 25 **glioblastoma** patients that received **continuous valganciclovir** treatment after the first six months, the two-year survival rate was **90%**, with a median overall survival of **56.4 months (4.7 years)**.¹³¹
- The current median survival of **glioblastoma** patients is only **12 to 14 months (1.0 to 1.16 years)**.¹³¹ The efforts made to prolong Senator Kennedy's life by the experts at **Duke University Medical Center** was a survival of **15 months (1.25 years)**—**3.45 years less** than the **median** survival in the 25 glioblastoma patients who received continuous **valganciclovir** treatment as detailed above.

AS WE SEE IT

The implication from these findings is that treating active **cytomegalovirus** infection may dramatically reduce progression, and significantly increase survival time, in patients suffering from the deadly brain cancer **glioblastoma**. Most exciting is the intriguing data from this retrospective study showing that in **glioblastoma** patients with active **cytomegalovirus**, a treatment protocol employing **valganciclovir** resulted in a *median* survival of **4.7 years!**

Not only does this retrospective data involving the continuous use of **valganciclovir** substantially extend survival in **glioblastoma** patients, but it provides an opportunity to incorporate additional complementary therapies that could improve survival even more!

Why Brain Tumor Patients Are Denied Valganciclovir

It is illegal for the maker of **valganciclovir** to promote it as a treatment for brain cancer. The regulatory system in the United States requires that the maker of a drug conduct extensive clinical trials for each disease a drug claims to treat and then submit the trial results to the FDA for approval.

It is not illegal, however, for an oncologist to prescribe **valganciclovir** to treat **glioblastoma**.

The problem is the annual cost for **valganciclovir** is around **\$50,000**. Many health insurers will refuse to pay this outlandish price. If an oncologist tries to prescribe it for a patient it will not be one of the insurance company's "**recommended regimens**," and the oncologists will likely lose his **\$350/month** stipend because he or she did not adhere to the treatment protocols designated by the insurer.



We fear that **12,000 Americans** will continue to die prematurely from **glioblastoma** every year despite impressive findings showing that **valganciclovir** could extend the survival times of many of these patients diagnosed with this deadly disease.¹³⁶

Changing Cancer Care For The Worse

What we are seeing before our eyes are physicians who will give up years of education, creativity, and understanding of the individual patient to instead be directed by an **insurance company** and rewarded with a monthly stipend of **\$350** if he or she follows the insurers financially biased "orders."

The term now used for physicians in such a context is "provider." They provide the treatment, but are not involved in deciding what treatments to use. Thus, the physician has given up his or her role as "Decider" to become the "Provider."

The **\$350/month per patient** could possibly be a significant income for the oncologist. Assume that oncologist has 400 active patients and that 100 of them are on the insurers "approved" chemo program. That's \$35,000 per month or **\$420,000 per year**. In most major cities, that's about

what the average medical oncologist makes annually. If the oncologist surrenders his decision making to the insurer, he is doing less work and has fewer worries regarding patient outcome since he was only "following orders." The insurance company decided on the regimen. Thus, the trade-off to surrender physician autonomy for a substantial monetary reward that involves less stress on the physician becomes an irresistible temptation for far too many highly educated and highly trained medical oncologists.

Another concern is what will the insurer decide regarding the use of supportive care therapy, such as antiemetic and immune protective treatment prior to chemo. What will the insurer mandate regarding which imaging studies can or cannot be done, what laboratory studies are to be obtained and how often, and which immune-augmenting drugs are to be used? Where does the direction of care involving cost cutting stop?

In this newly perverse system brought about by outlandishly high medical prices, why bother using physicians to treat cancer patients? Given this form of cookbook medicine, costs could be further cut by using nurse practitioners or physician assistants to deliver standard care chemo drugs.

Blame The Broken System...Not Just Insurance Companies

A number of health insurance companies are looking into aggressive ways to cut the soaring costs of cancer drugs by seeking to reduce payments to oncologists if they prescribe pricier drugs.

As I wrote earlier this year in an article titled “**Unsustainable**

Cancer Drug Prices,” of the 12 new cancer drugs approved in **2012**, 11 were priced above **\$100,000 a year!** Over a hundred oncologists signed a protest letter that concluded that the prices of many of these drugs “***are too high, unsustainable, may compromise access of needy patients to highly effective therapy, and are harmful to the sustainability of our national healthcare systems.***”¹³⁷



Industry Actuaries Guide Your Cancer Treatment

The practice of medicine has largely devolved to a place where physicians no longer take the lead in guiding treatment.

Consider a scenario that plays out day after day in modern cancer treatment.

An experienced oncologist sees a Medicare patient suffering from an aggressive cancer. The oncologist realizes that there are several viable options, and that the best therapy is not the usual, cost-effective standard-of-care choice covered by Medicare. Rather, it's a more expensive and newer option with compelling data that shows better results. However, the newer, more expensive treatment option—the one that's best for the patient in the opinion of the treating oncologist—is not standard of care and therefore, is not covered under Medicare.

The result?

The patient is treated with the Medicare-approved drug. In this case, the federal government's actuaries at the Center for Medicare & Medicaid Services have been the guiding force in treatment of this patient, *not* the experienced oncologist.

Just six months after my article was published, we are seeing insurance companies rebel by offering incentives to oncologists to prescribe chemo drugs they perceive as being less expensive. Here is a quote from the insurance company's oncology medical director:¹³⁸

“This program—while sharing best practices and evidence-based medicine—also helps to support oncologists who require large staffs to treat these complex patients and provides the practice with enhanced reimbursement to offset the lower fees they receive when prescribing less expensive drugs.”

According to the *IMS Institute for Healthcare Informatics*, in 2013 the United States spent **\$37 billion** on cancer drugs, which is more than any other category.¹³⁹ Overall costs for treating cancer are well over **\$100 billion** annually and mounting steadily, according to researchers at the *National Cancer Institute*. Hospital, diagnostic, and pharmaceutical prices are beyond exorbitant.

A patient under the guidance of the **International Strategic Cancer Alliance (ISCA)** was recently charged **\$2,500** for a bone density outpatient test at a prestigious university hospital. The going rate at a diagnostic testing center is around **\$250**. When ISCA responded by threatening to pay for an advertisement in the *New York Times* indicating this abuse by the university hospital, the hospital drastically reduced their price to this patient (but not to other cash-paying patients).

Still another reason why medical costs are spiraling upwards are large hospitals that are buying out individual oncology practices so higher “hospital” prices can be billed to Medicare, Medicaid,

and health insurance companies. When chemo is administered in an oncologist's private office, the cost is less than compared to a hospital setting. Now hospitals are employing oncologists to make sure patients receive chemo in the hospital's oncology outpatient facility and billing insurance company's higher prices, which means you will be paying higher health insurance premiums, along with higher co-pays and deductibles.

The financial coffers of insurance companies are being plundered by the excess charges of hospitals and outrageously high drug prices. Insurance companies are responding by seeking to pay doctors to provide less costly treatments. This is bad news for cancer victims.

It is important to point out that in many clinical oncology settings, the insurance company's new "**recommended regimens**" may not be any worse than what patients are getting anyway. Bureaucracies have replaced the "special" physician, the one that comes up with creative approaches and who devours the literature looking for clues to help save his or her patient. Mainstream mediocrity has become the "standard of care" in too many instances and the public apathetically accepts it until they or a loved one is stricken with cancer.

The major factor responsible for the decay and dysfunction of sick care in the US is the powerful pharmaceutical lobby, the health insurance industry, and the burdensome legislation enacted by Congress that stifles innovation in the medical arena. None of these revelations should surprise **Life Extension**® members, who long ago learned how regulatory **strangleholds** inflict harsh economic pain, along with needless suffering and death.



"Insurers are changing how they pay for cancer care, aiming to blunt soaring costs and push oncologists to adhere to standardized treatment guidelines."¹³⁰

Wall Street Journal, May 27, 2014

What We Are Doing To Save Lives

For over 30 years, we at **Life Extension**® have relentlessly combatted the high cost of medicine, along with conventional oncology's less-than-optimal approach to cancer treatment.

We offer two services for members who develop **cancer**. One is free phone/email access to our cancer advisors. There is seldom a call where we can't suggest validated ways to improve survival, sometimes as simple as adding **aspirin** and **metformin** to conventional treatment. To speak with a cancer advisor, call **1-866-864-3027**.

The second option is concierge oversight provided by the **International Strategic Cancer Alliance** (ISCA). This service has collectively lost us **millions of dollars** since its inception, but in the process has saved lives and added life-years. The main cost when using the **International Strategic Cancer Alliance** has been the high hourly rates charged by top-notch oncologists and other personnel involved in developing personalized and creative treatment strategies. New health insurance exclusions may also increase the patient's out-of-pocket costs when

utilizing ISCA's **Personalized Treatment Protocols**. To reach out to the **International Strategic Cancer Alliance**, call **1-610-628-3419**.

In this month's issue, you're going to read a case history of an advanced stage **pancreatic cancer** patient who contacted us in time for aggressive innovative therapies to be initiated. Another case history whereby our team of experts saved the life of a very "terminal" **head and neck cancer** patient can be read on the next page.

We were also going to publish in this month's issue an update on the successes we are seeing with **breast cancer** patients using innovative therapeutic approaches we helped develop. We are deferring that article until at least next month because when we reported on these treatment successes two years ago, the clinic was overwhelmed and had to stop taking new patients. I was informed this clinic should be ready to accept at least some new patients starting around October 15th of this year.

For longer life,

William Faloon

Aggressive Approaches Can Cure Terminal Cancer

In **April of 2000**, a patient came to us with advanced **head and neck cancer** with a primary location in the **sinus** and infiltration to the **brain** and orbital (eye) cavity. The tumor was the approximate size of a baseball and every oncologist consulted stated the patient had only months to live. Hospice was recommended as there was no conventional therapy that could treat this patient due to the complex anatomical locations of the tumor.

Just imagine the challenge of treating a tumor of this size growing inside someone's head. The tumor's location made it untreatable, according to every oncology expert. The only advantage we had is that no treatment had yet been administered, meaning the tumor was "**treatment naïve**," and thus vulnerable to eradication by multimodal therapies. Our dilemma was figuring out how to administer therapy to this delicate anatomical region of the body without blinding the patient and creating permanent brain damage.

The hospital wanted to administer systemic **cisplatin** chemotherapy, which would have temporarily shrunk the tumor, but at the cost of horrific side effects and the mutation of the tumor to a virtually invulnerable stage. We stopped the patient from getting the systemic **cisplatin** in the nick of time.

The scientific team at **Life Extension®** devised an unprecedented protocol that involved inserting a catheter into the patient's femoral artery. The catheter was directed into the aorta and from there threaded into the external carotid arteries. Using the catheter as a chemotherapy delivery system to the tumor, a relatively massive dose of **cisplatin** was initially used to target the tumor. It would have been impossible to deliver enough of this highly toxic chemo drug in any other way. Even by delivering **cisplatin** directly into the tumor, there were still some side effects (renal impairment) which were able to be reversed.

Following initial direct-to-the-tumor **cisplatin** therapy, the chemo drug **paclitaxel** was administered via this same **intra-arterial** route for four additional weeks.

These intra-arterial chemotherapy sessions were immediately followed by **proton beam-accelerated radiation** and the use of numerous drugs not approved to treat this cancer. For example, to enhance the tumor-killing effects of the proton beam-accelerated radiation, the radiation sensitizer **3-chloroprocainamide (3-CPA)** was used. This had to be synthesized in our lab, as it was not commercially available to us. To further enhance the proton-beam therapy, the patient ingested **18 grams** of **arginine** before treatment and breathed pure oxygen during treatment. The objective was to thoroughly oxygenate the patient in order to induce maximal tumor cell death during the proton-beam therapy.

It took until late **June 2000** (the patient was diagnosed in **April 2000**) to initiate this complex therapy. By **September 2000**, there was no sign of active tumor. The patient was in **complete remission**, meaning there was no sign of tumor activity in the patient's body. Oncologists at Loma Linda Medical Center were so impressed that they used this same protocol on another patient with advanced sinus cancer. We were informed that in this patient a **complete remission** was also attained.

Our client was prescribed a three-year follow up cyclical dosing of **interferon alfa-2b** and **13-cis retinoic acid** to mop up any residual tumor cells that may have escaped the aggressive proton beam and intra-arterial chemo that was delivered over an eight-week time period.

Within two years, our client developed **radiation necrosis** of the brain, which was caused by the high dose of proton beam radiation therapy. This is a common side effect when the brain is irradiated. Once again, conventional doctors pronounced our client "terminal," since there was no recognized treatment to overcome the raging inflammatory fires destroying the brain.

The scientific team here at **Life Extension®** went back to work and identified two drugs (**cabergoline** and **pentoxifylline**), both not approved to treat **radiation necrosis**. The two-drug combination suppressed the radiation necrosis, and once again to the doctor's amazement, this patient was cured of a side effect that had been pronounced terminal. Our client remains alive today, **14 years** since the original "terminal" diagnosis was made.

To make more of these kinds of lifesaving therapies available, I helped set up the **International Strategic Cancer Alliance (ISCA)** to speed innovative cancer treatments to patients who are unable to be helped by conventional oncology.



Quote From Ayn Rand Regarding Doctors

"I have often wondered at the smugness with which people assert their right to enslave me, to control my work, to force my will, to violate my conscience, to stifle my mind, yet what is it that they expect to depend on, when they lie on an operating table under my hands? Let them discover the kind of doctors that their system will now produce. Let them discover, in their operating rooms and hospital wards that it is not safe to place their lives in the hands of a man whose life they have throttled. It is not safe, if he is the sort of man who resents it—and still less safe, if he is the sort who doesn't."

From *Atlas Shrugged*
by Ayn Rand

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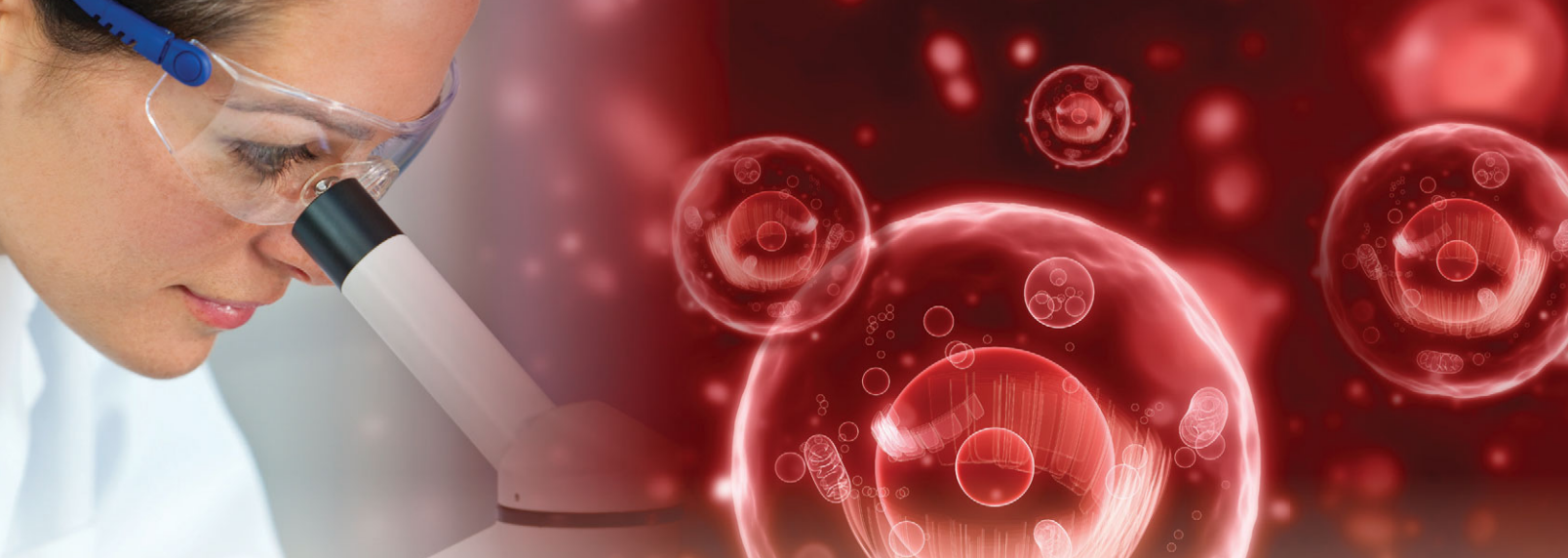
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FIGHT BACK AGAINST AGING!

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 WITH BioPQQ® that helps protect delicate cellular structures and enables cells to perform life-sustaining metabolic processes.

Mitochondrial Energy Optimizer with BioPQQ® 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 called advanced glycation end products 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
- **PQQ:** This breakthrough micronutrient has been shown to trigger **mitochondrial biogenesis**—the growth of **new** mitochondria in aging cells!⁶ PQQ also activates genes involved in protecting the delicate structures within the mitochondria.⁷⁻¹⁰
- **LUTEOLIN:** Systemic inflammation is involved in most undesirable consequences of aging. Culprits behind **inflammatory** reactions are pro-inflammatory **cytokines**, such as **interleukin-1** and **tumor necrosis factor-alpha**. *Luteolin* is a flavonoid that has been shown to help suppress these inflammatory cytokines.¹¹⁻¹⁶
- **BENFOTIAMINE:** Effectively modulates multiple destructive biochemical pathways that 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.¹⁶⁻¹⁹ Benfotiamine protects endothelial cell integrity from the effects of high glucose levels. In addition, benfotiamine exhibits direct antioxidative capacity and supports DNA function.²⁰
- **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.²¹⁻²⁴

- **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.²⁵⁻²⁸
- **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.²⁹

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

A bottle of **Mitochondrial Energy Optimizer with BioPQQ®** containing **120 capsules** retails for \$94. If a member buys four bottles, the price is reduced to **\$63 per bottle**.

Just four capsules of Mitochondrial Energy Optimizer with BioPQQ® provide:

| | |
|--|---------|
| Carnosine | 1000 mg |
| ArginoCarn® Acetyl-L-carnitine arginate DiHCl | 675 mg |
| R-Lipoic acid (as microencapsulated Bio-Enhanced®) | 150 mg |
| Benfotiamine | 150 mg |
| Vitamin B6 (as pyridoxal 5'-phosphate) | 100 mg |
| BioPQQ® (Pyrroloquinoline quinone disodium salt) | 10 mg |
| Luteolin | 8 mg |
| Calcium | 230 mg |



Item # 01768

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

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

TRIPLE ACTION CRUCIFEROUS VEGETABLE EXTRACT

FOR DNA PROTECTION

Scientists continue to discover healthful benefits—including DNA protection—in **cruciferous vegetables** such as broccoli, cauliflower, cabbage, watercress, and Brussels sprouts. Unfortunately, no matter how healthy you eat, cooking destroys many of these protective plant extracts.

Triple Action Cruciferous Vegetable Extract combines cruciferous plant extracts into a comprehensive formula for optimal DNA protection.

Protective compounds found in cruciferous vegetables like **IBC** (*indole-3-carbinol*) and **DIM** (*di-indolyl-methane*) encourage liver detoxification to help neutralize dangerous xenoestrogens (estrogen-like environmental chemicals that damage the body's hormonal system), as well as beneficially modulate estrogen metabolism.¹⁻⁴

Extracts of **broccoli**, **watercress**, and **rosemary** also provide bioactive compounds that have a multitude of favorable effects on estrogen metabolism and healthy cell division.⁵⁻⁸ **Apigenin**, a powerful plant flavonoid found in plants such as parsley and celery, boosts cell protection.⁹

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

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

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



Item # 01468

Item # 01469

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

| | |
|--|---------------|
| Broccoli Extract [standardized to 4% glucosinolates (16 mg)] | 400 mg |
| Watercress 4:1 extract | 50 mg |
| Indole-3-Carbinol (IBC) | 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 |

**Comprehensive Pomegranate
Protection!**

FULL-SPECTRUM POMEGRANATE FORMULA

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

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

The Next-Generation Pomegranate Formula

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

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

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

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

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



One softgel of Full-Spectrum Pomegranate™ contains:

| | |
|--|-----------------|
| POMELLA® Pomegranate | 400 mg |
| Extract (fruit) providing 120 mg punicalagins | |
| Proprietary Pomegranate | 137.5 mg |
| Blend [flower extract and seed oil providing 30 mg punic acid] | |

Full-Spectrum Pomegranate™

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

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

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IN THE NEWS

Metformin May Reduce Risk Of Glaucoma

Researchers at the University of Michigan Kellogg Eye Center, Ann Arbor, say the popular diabetes drug **metformin** may be associated with a reduction in open-angle glaucoma.*

In a study of 150,016 diabetes patients 40 years and older with no pre-existing glaucoma, lead researcher Julia Richards, MD, and colleagues found that **3.9%** (5,893) developed open-angle glaucoma. According to Richards, “the risk for open-angle glaucoma was **25%** lower in patients with documented cumulative metformin use of more than **1,110 grams** over two years (average dose, **2 grams/day**) than in those with no metformin use.”

The biggest risk reduction was linked with the highest baseline risk and the highest glycated hemoglobin (HbA1c) levels.

“As we looked at higher-risk populations with higher HbA1c levels, we found a greater reduction in risk. The people who benefited the least were already at low risk and had well-controlled diabetes,” said Dr. Richards.

She added that the study supports the concept that **metformin** is a geroprotective, or anti-aging, drug because it produces effects that mimic caloric restriction.

Editor’s Note: “There are a variety of things we don’t know at this point,” said Dr. Richards. “We don’t know how our findings relate to uninsured populations, if they apply to nondiabetic individuals, if specific factors like intraocular pressure or age of onset play a role, or if the benefits extend to other types of glaucoma.”

—A. Kessler

* Dr. Richards presented her findings at the Association for Research in Vision and Ophthalmology 2014 Annual Meeting in Orlando, Florida.

Terminally Ill Patients Deserve “The Right To Try Act” Allowing Access To Experimental Treatment

Darcy Olsen and Richard Garr of the Goldwater Institute wrote an editorial in *USA Today* advocating a terminal patient’s right to try experimental medications that have passed Phase 1 of the FDA-approved safety trials, but are still under clinical development.*

“Why are people dying when promising treatment exists?” the authors ask. Terminal patients don’t have the 10 years on average it takes to bring a new drug to market.

Designed by the Goldwater Institute, the Right To Try initiative would allow terminal patients access to investigational drugs that have completed basic safety testing, thereby dramatically reducing wait times, and most importantly, potentially saving lives.

To date, the bill has passed into law in Colorado, Louisiana, and Missouri. Voters in Arizona will consider it on this November’s ballot.

Editor’s Note: Darcy Olsen is president of the Goldwater Institute, a nonprofit public advocacy group and research organization that developed the Right To Try Act. Richard Garr is chair of the Goldwater Institute’s Right To Try National Advisory Council and CEO of Neuralstem Inc., which develops neural stem cell therapies.

—A. Kessler

* *USA Today*. 2014 May 28.



Diabetes Rates Continue To Climb

On June 10, 2014, the Centers for Disease Control and Prevention announced that the number of Americans who have diabetes continues to climb, and there are now more than 29.1 million American adults living with the disease, an increase of 3.3 million cases since the last statistics were released in 2011.*

And the CDC estimates that more than **25%** of those adults don't even know they are sick.

Another 86 million—over a third of the adult American population—have blood sugar levels that are high enough to qualify them as prediabetic. Nearly **90%** of these prediabetics don't know that their levels are higher than normal and that **15 to 30%** of them will develop diabetes within five years if they don't make lifestyle changes now.

"These new numbers are alarming and underscore the need for an increased focus on reducing the burden of diabetes in our country," said Ann Albright, the CDC's Director of the Division of Diabetes Translation. "It's urgent we take swift action to effectively treat and prevent this serious disease."

Editor's Note: According to the 2014 report, diabetes is affecting people at a younger age as well. More than 208,000 Americans younger than age 20 have already been diagnosed with either type I or type II diabetes.

—A. Kessler

* *National Diabetes Statistics Report*, released by the Centers for Disease Control and Prevention. June 10, 2014.



High Doses Of Vitamin C Reduce Epstein-Barr Viral Infection

Medical Science Monitor reported a benefit for intravenous vitamin C in patients with high levels of antibodies to the Epstein-Barr virus (EBV), which has been implicated in chronic fatigue syndrome, Burkitt's lymphoma, Hodgkin's disease, and some autoimmune conditions.*



"This is, to our knowledge, the first clinical study of ascorbic acid and EBV infection," announced authors Nina A. Mikirova and Ronald Hunninghake of the Riordan Clinic, in Wichita, Kansas.

The duo evaluated data from 35 men and women diagnosed with chronic fatigue or other conditions who had Epstein-Barr virus antibodies measured before and after treatment with **7.5 to 50 grams** of intravenous vitamin C.

Thirty-two of the 35 subjects showed improvement following vitamin C treatment. Subjects who had five or more vitamin C infusions had a significantly greater percent decrease in EBV antibodies over time in comparison with infected individuals evaluated by the clinic who did not receive intravenous vitamin C.

Editor's Note: The researchers recommend further research involving a combination of vitamins C and D and other nutrients in EBV-infected patients.

* *Med Sci Mon.* 2014 May 4.

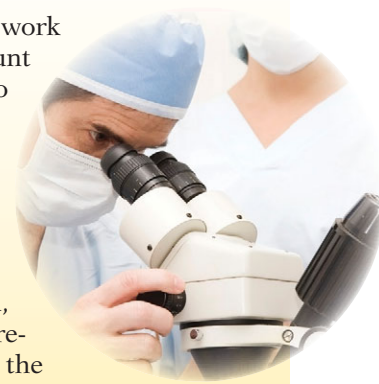
Fasting Regenerates The Immune System

The June 5, 2014, issue of the journal *Cell Stem Cell* published the findings of Valter D. Longo and colleagues at the University of Southern California, which found a rejuvenating effect for fasting on immune system cells.*

"What we started noticing in both our human work and animal work is that the white blood cell count goes down with prolonged fasting," Dr. Longo observed. "Then when you re-feed, the blood cells come back."

Dr. Longo and his associates determined that the reduction in these immune system cells triggers the stem cell-based regeneration of new cells. Fasting was found to reduce an enzyme known as PKA, which, when lowered, extended the life span of simple organisms in previous research conducted by the team. "PKA is the key gene that needs to shut down in order for these stem cells to switch into regenerative mode," Dr. Longo explained.

Editor's Note: "The good news is that the body got rid of the parts of the system that might be damaged or old, the inefficient parts, during the fasting," Dr. Longo noted. "Now, if you start with a system heavily damaged by chemotherapy or aging, fasting cycles can generate, literally, a new immune system."



* *Cell Stem Cell.* 2014 Jun 5;14(6):810-23.



Watch Out For “Gerontogens”

A review published online in *Trends in Molecular Medicine* discusses the dangers associated with gerontogens: environmental factors that promote physiologic (as opposed to chronologic) aging.*

Potential gerontogens include benzene, arsenic, ultraviolet light, ionizing radiation, chemotherapy, psychological stress, and cigarette smoke. Although exposure to some of these factors may be unavoidable, the concept of gerontogen-generated aging leaves room for optimism because it views physiologic aging as predominantly preventable. (Gerontologist Tom Perls has estimated that the rate of aging is **50 to 75%** determined by nongenetic factors.) The research team from the University of North Carolina plans to further study the effects of gerontogens via a novel mouse model.

Author Norman E. Sharpless and colleagues predict the development of blood tests to evaluate a number of molecular age biomarkers in order to understand individual differences in the rate of aging and to assess the age-promoting effect of gerontogens.

Editor's Note: “We believe just as an understanding of carcinogens has informed cancer biology, so will an understanding of gerontogens benefit the study of aging,” Dr. Sharpless stated. “By identifying and avoiding gerontogens, we will be able to influence aging and life expectancy at a public health level.”

* *Trends Mol Med.* 2014 May 28.

Review Affirms Higher Vitamin D Levels Are Associated With A Reduced Risk Of Premature Mortality

The results of a systematic review published on June 12, 2014, in the *American Journal of Public Health* reaffirms what a number of studies conducted over the past decade have indicated: Having a higher serum level of vitamin D is associated with a lower risk of dying prematurely.*

Cedric Garland, DrPH, and colleagues selected 32 studies that provided data on a total of 566,583 men and women for their analysis. They determined that having a vitamin D level of **30 ng/mL** is associated with approximately half the risk of dying over an average nine years of follow-up in comparison with lower levels. Dr. Garland, who is a professor at UC San Diego, noted that serum levels of vitamin D lower than **30 ng/mL** are estimated to exist in two-thirds of the US population.

Editor's Note: Dr. Garland observed that, “Three years ago, the Institute of Medicine (IOM) concluded that having a too-low blood level of vitamin D was hazardous. This study supports that conclusion, but goes one step further. The **20 ng/mL** blood level cutoff assumed from the IOM report was based solely on the association of low vitamin D with risk of bone disease. This new finding is based on the association of low vitamin D with risk of premature death from all causes, not just bone diseases.” Life Extension continues to recommend that people maintain **25-hydroxyvitamin D** blood levels between **50-80 ng/mL**.

* *Am J Public Health.* 2014 Jun 12.



Experts Take Issue With Anti-Supplement Sentiment

A letter composed by such notable authorities as Bruce N. Ames, PhD, and Jeffrey Blumberg, PhD, appeared in the *Annals of Internal Medicine* in response to an editorial titled “Enough is Enough: Stop Wasting Money on Vitamin and Mineral Supplements.”*

The authors of the letter assert that, rather than the case being closed as stated in the article, nutritional supplements do offer significant benefits.

“There are many issues that have helped to mislead people when it comes to the study of micronutrients,” stated first author Balz Frei, director of the Linus Pauling Institute. “For instance, most research is done without first checking to see if a person is inadequate in a nutrient and you won’t find much effect from a supplement if it isn’t needed.

“In similar fashion, too much research has been done with groups such as doctors and nurses who are probably not representative of the general population,” he added.

Editor's Note: Dr. Frei added, “It’s naive to ignore the fact that most people have micronutrient inadequacies, and wrong to condemn a daily supplement that could cover these nutritional gaps safely and at low cost. There’s strong evidence that a multivitamin/mineral supplement supports normal functioning of the body and helps improve overall health, and may even help lower chronic disease risk. It’s irresponsible to ignore decades of nutrition research and tell the people of the United States they have no need for a supplement that could be so helpful, and costs as little as \$1 a month.”

* *Ann Int Med.* 2014 Jun 3.

Omega-3 Fatty Acids Cut Tobacco Craving

A report published June 4, 2014, in the *Journal of Psychopharmacology* reveals the outcome of a trial of orally administered EPA and DHA, which uncovered a reduction in smoking and tobacco craving among those who received the supplements.*

Forty-eight regular smokers were given **2,710 mg** EPA and **2,040 mg** DHA or a placebo for one month. Tobacco craving and number of cigarettes smoked each day were assessed at the beginning of the trial, at the end of the treatment period, and 30 days following the end of treatment. Participants who received omega-3 fatty acids had significantly less craving for tobacco at the end of one month in comparison with initially assessed levels. Although craving rose in the month following the treatment period, it was still lower than that experienced initially among those who received EPA and DHA. In contrast, participants who received the placebo reported similar craving levels at all time points evaluated.

Editor's Note: Additionally, those who received omega-3 smoked **11.2%** fewer cigarettes after one month in comparison to the amount smoked at the beginning of the study.

**J Psychopharmacol.* 2014 June 4.



Soy Compound Helps Prevent Prostate Cancer Metastasis

In an article published May 28, 2014, in the *American Journal of Clinical Nutrition*, researchers at Northwestern University report the outcome of experiments conducted by their group and others that shows a protective effect for the soy isoflavone **genistein** against prostate cancer cell detachment, invasion, and metastasis.*

Research conducted by the team, described in 1996 in *Clinical & Experimental Metastasis* and in *Molecular Pharmacology* in 1997, demonstrated that genistein dose-dependently inhibited human prostate cancer cell detachment, which is due to the isoflavone's ability to increase cell adhesion. In further research, the group implanted human prostate cancer cells in mice and observed that cellular adhesion increased with the administration of genistein. This was accomplished at plasma genistein levels similar to those measured in men given **150 mg/day** of genistein, indicating that the compound inhibits cell detachment at concentrations attainable by humans.

Editor's Note: In addition to detaching from the extracellular matrix, invasion is facilitated by the production of matrix metalloproteinases (MMPs) that degrade surrounding tissue. A relatively low concentration of genistein, corresponding to concentrations of free genistein attained in the blood after dietary consumption, was found to reduce the expression and activity of MMP-2 in cultured human prostate cancer cells. Genistein was also shown to directly inhibit prostate cancer cell invasion at this concentration in other research conducted by the team.

**Am J Clin Nutr.* 2014 May 28.



Vitamin D Insufficiency Associated With HIV Progression

The *Journal of Infectious Diseases* reported findings from the PEARLS (Perineal Assessment and Repair Longitudinal Study) trial of HIV-positive men and women undergoing antiretroviral treatment, which reveal a protective effect for higher vitamin D levels against disease progression and premature death.*

The current study compared participants who developed a World Health Organization classified stage III or IV event (defined by advanced or severe symptoms) or death to those who did not develop this outcome. Low serum 25-hydroxyvitamin D levels, defined as less than **32 ng/mL**, were found in an average of **49%** of the participants. Subjects with low vitamin D had more than double the adjusted risk of experiencing a stage III or IV disease event or death by 96 weeks than those with sufficient vitamin D levels. Of the subjects who experienced this outcome, **59%** had low vitamin D levels, and the median time to the development of the outcome was shorter in the vitamin-insufficient group.

Editor's Note: In a separate analysis of virologic failure, defined as two successive plasma HIV-1 RNA measurements higher than **1,000 copies per mL** at or after the study's 16 week visit, those with low vitamin D levels had twice the risk compared to those with sufficient levels.

**J Infect Dis.* 2014 May 5.

SAMe

FOR BRAIN HEALTH



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

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

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

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

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

Compared to when SAMe was first introduced to the United States in 1997, Life Extension members can obtain it for **78% less**. On an inflation-adjusted basis, the savings are even greater.



Item # 00557

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

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

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

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

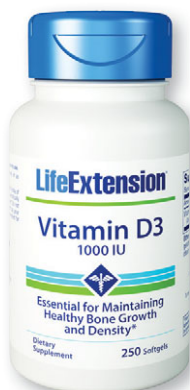
*These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.

D₃

VITAMIN D3 SOFTGELS

For Superior Absorption

New research on the vital benefits of **vitamin D** emerges on a daily basis. Studies confirm that **optimal** levels of vitamin D are in the range of **50-80 ng/mL** of **25-hydroxyvitamin D**. **Life Extension®** has created a large selection of highly *absorbable* **vitamin D** supplements in softgels to help you to achieve your individual **vitamin D goals**. Keep in mind that you may already be getting **1,000-3,000 IU** of **vitamin D** in your current multi-nutrient formulas.



Vitamin D3 1,000 IU

250 softgels • Retail: \$12.50

Four-bottle Member Price: **\$8.44 ea.**

For most people, a **1,000 IU** potency is insufficient to attain optimal **vitamin D** blood levels. However, this potency may be suitable for smaller individuals who obtain **2,000-3,000 IU** in their multi-nutrient formulas (and children). **Item # 01751**

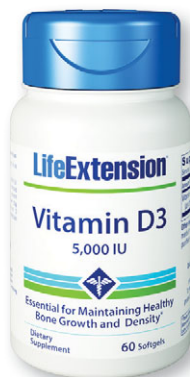


Vitamin D3 5,000 IU With Sea-Iodine™*

60 capsules (non-softgel) • Retail: \$14

Four-bottle Member Price: **\$9.38 ea.**

Most people, especially those seeking to reduce their salt intake, do not ingest enough iodine. Combining **5,000 IU** of **vitamin D3** with **1,000 mcg** of **iodine** into one capsule makes taking these two nutrients economical and convenient. *Due to the source of kelp, this product may contain fish and shellfish.* **Item # 01758**

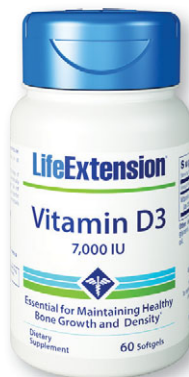


Vitamin D3 5,000 IU

60 softgels • Retail: \$11

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

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



Vitamin D3 7,000 IU

60 softgels • Retail: \$14

Four-bottle Member Price: **\$9.45 ea.**

Some people (such as those weighing more than 180 pounds) may require even more **vitamin D**. When combined with **1,000-3,000 IU** taken in a multi-nutrient formula, this **7,000 IU** softgel should enable these individuals to attain blood levels above **50 ng/mL**. **Item # 01718**



Vitamin D3 Liquid 2,000 IU (Natural Mint Flavor)

1 ounce • Retail: \$28

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

Great for travel and for those individuals who have difficulty absorbing enough vitamin D3 from softgels, this liquid vitamin D is ideal. **Item # 01732**

Also available without mint. (Item # 00864)

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

Caution: Individuals consuming more than 2,000 IU/day of vitamin D (from diet and supplements) should periodically obtain a serum 25-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 high blood calcium levels.

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



Validated in Huge New Study: Vascular Benefits of a Mediterranean Diet

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

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

Life Extension® Members Benefited Long Ago

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

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

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CAUTION: If you are taking anticoagulant or antiplatelet medications, or have a bleeding disorder, consult your healthcare provider before taking this product.

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

Super Omega-3 with Sesame Lignans and Olive Fruit Extract

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

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

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

| | |
|--|-----------------|
| EPA (eicosapentaenoic acid) | 1,400 mg |
| DHA (docosahexaenoic acid) | 1,000 mg |
| Typical DPA (docosapentaenoic acid) | 156 mg |
| Olive Extract (fruit and leaf) providing [39 mg polyphenols, 10.4 mg hydroxytyrosol/ tyrosol, 8.8 mg verbascoside/oleuropein] | 600 mg |
| Sesame Seed Lignan Extract | 20 mg |



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

Item #01482

BY STEPHANIE MARTINSON

DEADLY CARBOHYDRATES

The *Lethal* Sugar/ Cancer Connection

A new study shows what researchers have suspected for years—consuming **carbohydrates** dramatically increases the risk for a common type of **breast cancer**, a kind that is notoriously hard to treat.¹

The study, published earlier this year in *Cancer Epidemiology, Biomarkers & Prevention*, revealed that postmenopausal women treated for breast cancer were:

- **Two times** more likely to have recurrence if their **carbohydrate** intake remained stable or increased after surgery,
- **70%** more likely to have a recurrence if their tumors tested positive for “**insulin-like growth factor-1**,” or **IGF-1** (IGF-1 increases in response to excess **carbohydrate** intake),
- Likely to have a **5-fold** increase in the risk of recurrence if they had the combination an **IGF-1 receptor-positive** tumor *plus* a stable or increased **carbohydrate** intake.¹

While the study focused on reducing future cancer recurrences, it has tremendous implications for women who have not yet experienced breast cancer, and for that matter, for everyone concerned about preventing cancers in the future.





A powerful way to reduce cancer risk is to get control of your intake of refined carbohydrates, IGF-1, and insulin levels.² Yet despite the known risks of excess carbohydrate intake (obesity, cancer, and vascular disease), cutting out carbs can be challenging for most people.

This article investigates the connections between carbohydrate intake and breast cancer risk. It then explores recent data showing how consuming and **absorbing** too many carbohydrates is associated with elevations in IGF-1, which increases the risk of breast cancer recurrence. It concludes with real-world solutions to help mitigate the adverse impact of excessive **carbohydrate** intake.

The Breast Cancer/Carbohydrate Connection

There is growing interest among the scientific community in the relationship between carbohydrate consumption and cancer, with a special focus on breast cancer.

Diets high in readily digested carbohydrates (like those found in most processed foods) are associated with increased cancer risks. Women who consume great amounts of foods with a high **glycemic index** (the rate at which carbohydrates raise blood sugar levels) have a **57%** increased risk of breast cancer, while those who eat food with a high **glycemic load** (a product of the glycemic index and the total available carbohydrate content of a food) have as much as a **153%** increase in risk.³

This increased risk has been specifically identified in people who are overweight or obese. Overweight women, for example, are **35%** more likely to get breast cancer if they eat a lot of foods with a high glycemic index.⁴ Asian women whose primary carbohydrate source is white rice are **19%** more likely to develop breast cancer with every **100-gram** (about 3 ounces) increment in their rice intake per day. But those who eat brown rice, a slower-digesting starch, are **24% less** likely to develop breast cancer with every **100-gram** increment of rice consumed per day.⁵ When glucose levels get so high that they enter the diabetic range, breast cancer risk grows to twice that of postmenopausal women with normal sugar levels.⁶

In addition to increasing the risk of developing breast cancer in postmenopausal women, glycemic load and total carbohydrate consumption are also associated with the worst kinds of breast cancer,

namely those lacking receptors for estrogen and progesterone molecules.⁷ Triple negative breast cancers—in which cancer cells do not contain receptors for estrogen, progesterone, or HER2—cannot be treated with treatments that oppose hormone actions. This leaves patients to suffer through more deadly, and often less effective, treatment options, thereby lowering survival rates substantially.⁸

On the other hand, the Nurses' Health Study, a large, women's health-focused research project, demonstrated that women who followed a diet high in vegetables and low in carbohydrates were **19%** less likely to develop estrogen receptor negative breast cancer.⁹

Carbohydrates And Cancer Risk

There is a deeper problem with high carbohydrate consumption, even when blood sugar levels don't rise.

High-carbohydrate diets produce chronic elevations of insulin as the body tries to deal with the excess sugar.⁴ Protein **glycation** caused by excess glucose also contributes to insulin resistance, raising blood glucose levels and potentially insulin levels as a result.¹⁰ Because **insulin** is a growth factor, elevated insulin levels represent a potential breast cancer threat because it appears to stimulate breast cancer cells to grow and reproduce.¹¹

Studies now reveal another danger—one that goes beyond glycation and insulin levels—which raises a woman's risk for breast cancer in relation to her carbohydrate intake.

This danger is posed by a growth factor so closely related to insulin that it is called "**insulin-like growth**



factor-1,” or IGF-1. IGF-1 now appears to be a culprit that links high-carbohydrate intake to cancer risks throughout the body, but with special relevance for breast and possibly prostate cancers.^{1,12}

How IGF-1 Increases Breast Cancer Risk

Serum levels of **IGF-1** are associated with breast cancer risk in premenopausal women, and the higher the IGF-1, the greater the risk.^{6,13} Studies show this risk increase to be between **60 to 86%**, compared to women with lower levels. For premenopausal women 50 or younger, this increased risk grows to **150%**.^{14,15}

Some studies, however, demonstrate about a **38%** increase in breast cancer risk in women older than 50 with high **IGF-1** concentrations.^{16,17}

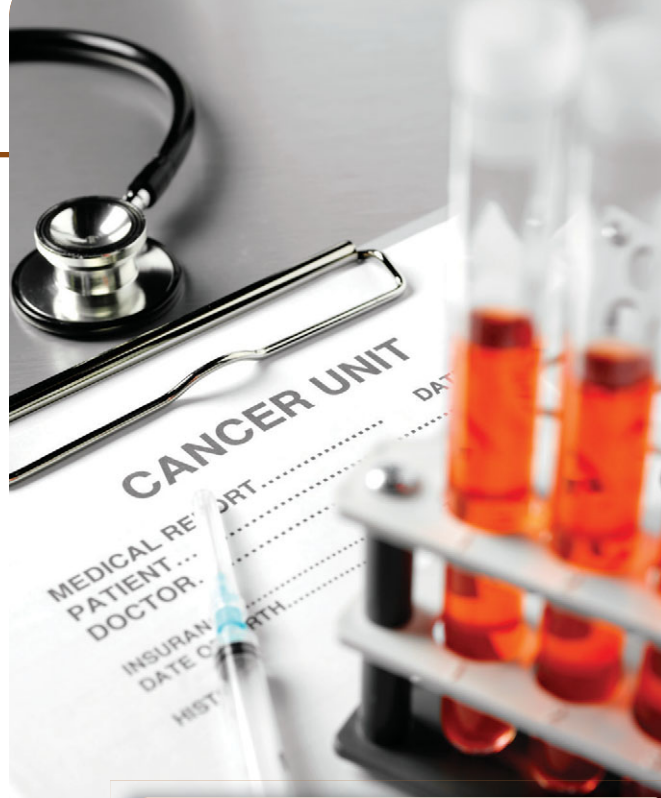
IGF-1 has a strong impact on breast cancer because two of its functions, promoting tissue growth and suppressing programmed cell death (*apoptosis*), are hallmarks of malignant cells. The actions of IGF-1 are necessary for growth and development through childhood.¹⁸ But in adults, higher levels of IGF-1 can pose problems, including increasing cancer risk and shortening life span.¹⁹

IGF-1 is a protein hormone similar in structure to insulin.²⁰ It is a growth factor involved in normal mammary gland development and promotes healthy cell proliferation, growth, and reproduction and thereby helps the developing mammary gland form correctly.²¹

In adults, increased carbohydrate consumption appears to raise IGF-1 production and increase the risk of cancer.^{19,22} In children, IGF-1 appears to be more beneficial, since rapid cell replication and cell survival is desired.^{20,23} In addition to stimulating cell growth and division, IGF-1 appears to suppress apoptosis,^{24,25} one of the body's many defense mechanisms against cancer. When this protective mechanism fails, abnormal, pre-cancerous cells survive and reproduce instead of being naturally removed from healthy tissue.^{14,26}

These two mechanisms—growth promotion and diminished apoptosis—are hallmarks of malignant cells. That's why high levels of IGF-1, with its ability to promote tissue growth and suppress apoptosis, are a potent cancer promoter.^{14,22,27} Lab research shows that when developing mammary cells are exposed to high levels of IGF-1, it causes the cells to form large sphere-like clumps with sustained proliferative activity, abnormal changes suggestive of carcinogenesis.²¹

IGF-1 can promote cancer through its local effects on specific cell types. Making matters worse, cancers that develop under IGF-1 stimulation are often resistant to chemotherapy and radiation.^{28,29} Recent evidence suggests IGF-1 and estrogen work together to promote cancer in human breast tissue.³⁰



What You Need To Know

Carbohydrates And Breast Cancer Risk

- Americans' high consumption of carbohydrates puts them at increased risk for many cancers, especially breast cancers.
- Insulin-like growth factor (IGF-1) and insulin are underlying culprits associated with carbohydrate intake and cancer.
- IGF-1 promotes rapid cell replication while reducing normal programmed cell death, two major factors associated with cancer development.
- Studies show a close relationship between carbohydrate consumption, IGF-1, and breast cancer risk.
- You can reduce your carbohydrate and IGF-1-related cancer risk by selecting appropriate nutraceuticals that reduce carbohydrate breakdown and absorption.
- If you are one of the many who find it hard to cut down on carbohydrates in your diet, it is time to turn to some of the many natural dietary supplements that may limit your exposure to these cancer risk factors.

How Inhibiting IGF-1 Reduces Cancer Risk

On its own, IGF-1 is not the problem. Like most signaling molecules, IGF-1 exerts specific actions on cells only when it binds to specific **IGF-1 receptors**. IGF-1 receptors are found in many tissues. This increased IGF-1 signaling and receptor expression is recognized as one factor in breast cancers becoming resistant to treatment.²⁹

IGF-1 receptor levels are higher in other cancers as well, including prostate cancer. High IGF-1 levels, along with reduced levels of the main serum-binding protein *IGF-BP3* (insulin-like growth factor binding protein 3) in the blood predispose men to developing **prostate cancer**.³¹ As with breast cancers, increased IGF-1 signaling is associated with prostate cancers becoming independent of hormonal control. This makes them much more difficult to treat with conventional antihormone therapies.³²

Fortunately, in studies that used antibody molecules to inhibit IGF-1 binding to IGF-1 receptors, several factors needed for cancer progression were inhibited, including protein synthesis, cell growth, and survival.³³ Furthering this point, people with a congenital IGF-1 deficiency have significantly reduced rates of cancer.¹⁹

In addition, research shows that the antidiabetic drug **metformin** (which has multiple health-

promoting benefits) suppresses IGF-1 signaling in human pancreatic cancer cells in culture.³⁴

Research has shown that women with plasma IGF-1 levels less than **120 ng/mL** are more likely to survive breast cancer.³⁵ In fact, lowering IGF-1 plasma levels has now been recommended to:³⁵

- Reduce the risk of developing breast cancer in high-risk women,
- Slow breast cancer progression in patients in the early stages of their disease,
- Lower the risk of breast cancer recurrence, and
- Increase the probability of surviving breast cancer.

For these reasons, Big Pharma is keenly pursuing drugs that inhibit IGF-1 receptor binding or signaling for use against a variety of cancers, though to date many of these study results have been miserable.^{26,36-39}

Fortunately, there are a number of natural ways to reduce the damage caused by IGF-1.

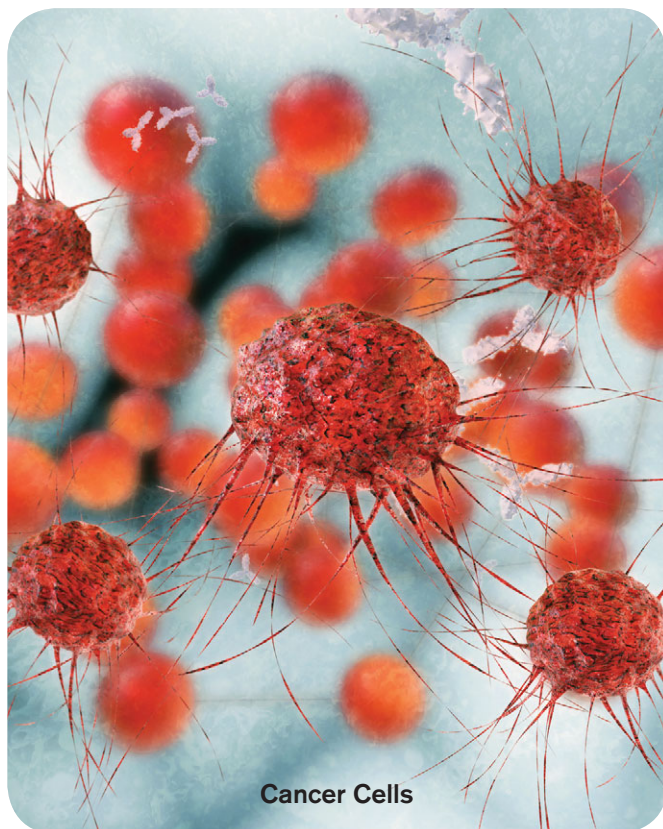
Reduce Your Body's Exposure To Carbohydrates And IGF-1

The most direct way to reduce your body's exposure to the **carbohydrates** that induce IGF-1 activity and its related cancer risk is to eat a diet containing fewer carbohydrates and simple sugars. However, this is challenging for many people, particularly those who are also trying to reduce consumption of animal proteins and fats.⁴⁰ Similarly, you can lower overall exposure to carbohydrate breakdown by consuming a diet high in fiber (which is not readily broken down by the intestine); but again, high-fiber diets can be unappealing and uncomfortable for many people.⁴⁰

A more palatable and practical option to reduce carbohydrate exposure is to use specific nutrients that limit or slow starch breakdown in the intestine, which in turn reduces blood sugar levels and insulin levels.⁴⁰ By reducing these levels, you can "turn down the volume" on the IGF-1 system and gain more control of your dietary risk for cancer.^{23,41,42}

Table 1 (next page) offers examples of some of the nutrients known to be most effective at reducing your body's exposure to excessive dietary carbohydrate, potentially modulating IGF-1 and insulin levels.

As you can see from Table 1, there are many options for gaining control of your body's exposure to excess carbohydrates. Note that these products act by several different mechanisms; this is a critical and widely recognized factor in the effectiveness of these natural supplements.



Cancer Cells

**Table 1: Nutrients That Protect Your Body
From Excess Carbohydrate Exposure And High IGF-1 Levels**

| Nutrient | Mechanism | Impact On Carbohydrate Exposure | Impact On IGF-1/ Insulin System |
|---|--|---|--|
| L-arabinose ⁴³⁻⁴⁵ | Inhibits intestinal sucrase (enzyme that breaks down sucrose to glucose and fructose) | Slows intestinal carbohydrate absorption; lowers blood glucose | Lowers insulin levels; reduces insulin resistance |
| Chromium ⁴⁶⁻⁵⁰ | Potentiates the action of insulin | Lowers blood glucose; improves glucose tolerance | Enhances insulin sensitivity; lowers insulin levels |
| Coffee ⁵¹⁻⁵⁴ | Downregulates genes involved in fat production and inflammation; stimulates glucose transporter activity | Reduces blood glucose | Improves insulin resistance; IGF-1 levels are lower in women coffee drinkers |
| <i>Irvingia gabonensis</i> (African mango; Dikanut) ⁵⁵⁻⁶⁰ | Reduces levels of intestinal carbohydrate-digesting enzymes; downregulates fat production | Reduces absorption, blood levels of glucose | Decreases body weight, a contributor to elevated IGF-1 |
| Mulberry leaf extract ⁶¹⁻⁶⁸ | Inhibits intestinal carbohydrate-digesting enzymes; supports glucose transporter GLUT4 | Reduces carbohydrate absorption; decreases blood glucose | Suppresses body weight gain; reduces insulin resistance |
| <i>Phaseolus vulgaris</i> (white kidney bean) and other legume extracts ⁶⁹⁻⁷² | Inhibits intestinal carbohydrate-digesting enzymes | Slows carbohydrate digestion; suppresses hunger/increases fullness; reduces blood glucose | Lowers insulin levels |
| Phloridzin ⁷³⁻⁷⁵ | Blocks carrier proteins that reabsorb glucose from the intestines and kidneys | Lowers blood glucose | Normalizes glucose tolerance and insulin sensitivity |
| Seaweed (<i>Ascophyllum nodosum</i> and <i>Fucus vesiculosus</i>) extracts ^{76,77} | Inhibits intestinal carbohydrate-digesting enzymes | Appears to reduce after-meal blood glucose | Improves insulin sensitivity; reduces insulin levels |
| Sorghum ^{10,78,79} | Activates metabolic sensor PPAR-gamma; may inhibit insulin resistance | Slows starch digestion; reduces blood glucose | Improves insulin sensitivity; lowers insulin levels |
| Transglucosidase ⁸⁰⁻⁸⁴ | Converts dietary sugars and readily digested carbohydrates into harder-to-digest oligosaccharide molecules; improves favorable intestinal microbial population associated with lower diabetes and cancer rates | Slows carbohydrate digestion and absorption; prevents after-meal glucose increase | Reduces insulin levels |

Summary

Many people have shifted away from animal proteins and fats toward a more carbohydrate-rich diet in an effort to improve their health and longevity.

Unfortunately, diets high in carbohydrates, especially sugars and refined starch, raise cancer risk. This is, in part, due to higher levels of IGF-1, a growth factor that promotes cell replication and slows programmed cell death—two major components of cancer development.

High levels of IGF-1 are strongly associated with breast cancers, and perhaps others. In addition, tumors promoted by IGF-1 are more likely than other tumors to be resistant to standard hormone treatments, increasing the need for more toxic chemotherapy.

You can help control IGF-1 levels by restricting intake of refined carbohydrates (white starches) and increasing intake of dietary fiber. Many people find these dietary interventions difficult to sustain.

An alternative to these dietary shifts is to use natural supplement formulas that reduce the ability of dietary carbohydrates to reach your bloodstream, thereby lowering blood sugar, improving insulin sensitivity, and potentially reducing the body's production of cancer-promoting IGF-1.

Several such supplements exist in multi-ingredient formulas, thus providing broad-spectrum blood sugar modulating mechanisms. By choosing an appropriate supplement formula regimen to be taken before carbohydrate- and starch-containing meals, you may reduce cancer risks associated with elevated blood glucose, insulin, and IGF-1. ●

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

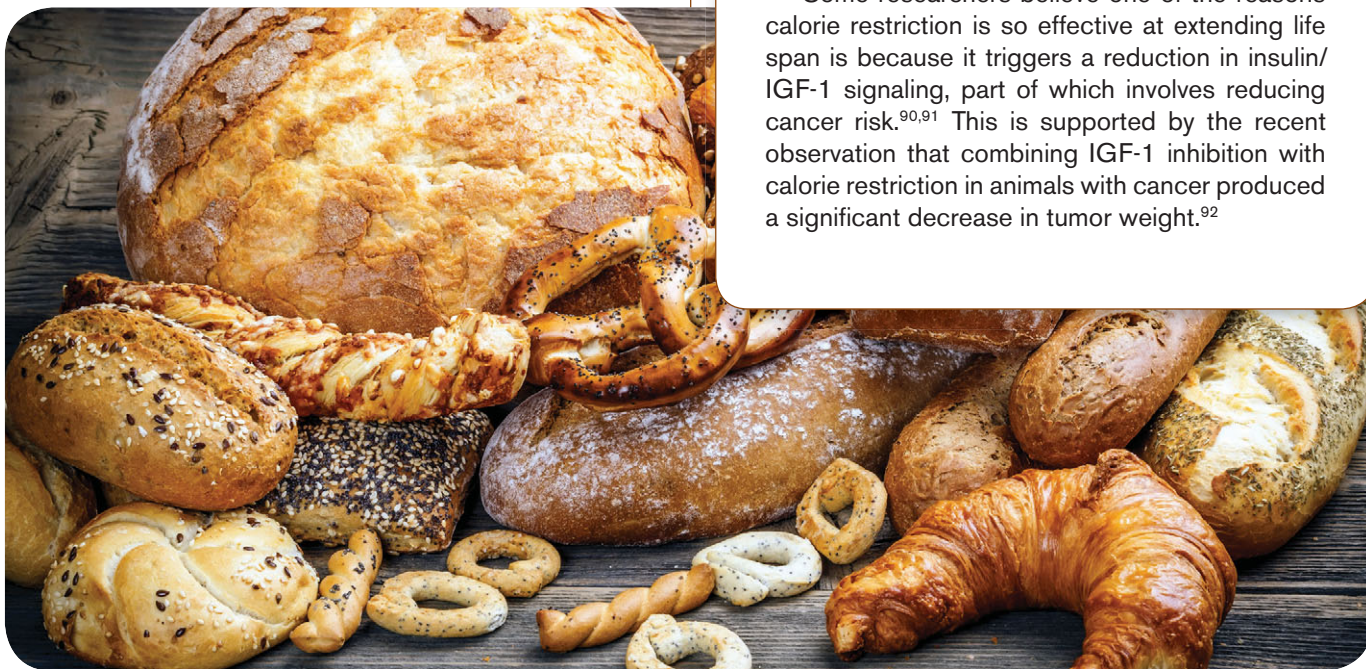
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IGF-1, Insulin, Calorie Restriction, And Life Span

Studies show that reducing insulin and IGF-1 signaling not only decreases cancer risk, but can also extend life span in many organisms. IGF-1 receptors in the brains of mammals have been shown to control life span through several mechanisms including control of energy metabolism and modified stress resistance.⁸⁵ Studies show that humans with genetic deficiencies in growth factors including IGF-1 are reported to have increased life span.^{19,86-89}

Some researchers believe one of the reasons calorie restriction is so effective at extending life span is because it triggers a reduction in insulin/IGF-1 signaling, part of which involves reducing cancer risk.^{90,91} This is supported by the recent observation that combining IGF-1 inhibition with calorie restriction in animals with cancer produced a significant decrease in tumor weight.⁹²





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Multiple Mechanisms for the Support of Healthy Blood Sugar Levels

Tri Sugar Shield™

Many aging individuals find themselves under assault from rising **blood sugar** levels.

Despite a healthy diet and exercise, blood sugar levels can rise due to a number of factors including excess **gluconeogenesis** whereby the liver produces glucose from protein. Another issue is the rapid conversion of any **starch**, including whole grains, into **glucose**. The result is that even health-conscious, active people can experience higher-than-desired blood sugar levels as they age.¹²

An all-natural, **multi-pronged** approach has been designed to support the natural balance of key **glucose pathways**!

Tri Sugar Shield™ provides three plant-derived nutrients that—through their **rich array of complementary mechanisms**³⁻¹⁸—afford an **unrivaled** level of optimal, broad-spectrum support for healthy glucose metabolism in aging individuals within normal range.

MULTI-PRONGED APPROACH

Life Extension® Tri Sugar Shield™ contains the following three nutrients:

Sorghum Extract

Sorghum has long been cultivated in Asia (and now is grown in Africa, India, China, Australia, and the USA) and helps maintain healthy blood sugar levels, among those in the normal range, by modulating **four** different mechanisms:

- Balances the rate of sugar manufacture in the liver (*gluconeogenesis*).⁵
- Promotes insulin sensitivity.⁶
- Regulates *PPAR-gamma*, a metabolic thermostat controlling glucose metabolism.^{6,7}
- Regulates the enzyme *alpha-amylase*, which in turn controls the release of sugar found in starch.^{3,4}

Mulberry Leaf Extract

Mulberry leaf has been used in Chinese traditional medicine for centuries. Mulberry leaf extract targets **three** different mechanisms:

- Targets the *alpha-glucosidase* enzyme to regulate conversion of starch into glucose.⁸⁻¹⁰
- Supports glucose transporter *GLUT4* that moves glucose out of the bloodstream and into muscle and liver cells.^{11,12}
- Promotes insulin sensitivity.¹³

Phloridzin

Phloridzin is a natural polyphenol found in various fruit trees.¹⁴ Phloridzin helps maintain healthy blood sugar levels, among those in the normal range by:

- Targeting carrier protein *SGLT1*, in turn helping to block the absorption of glucose into the bloodstream.^{15,16}
- Targeting carrier protein *SGLT2*, in turn supporting glucose elimination via urine.^{17,18}

By targeting **all** of these diverse glucose pathways, **Life Extension® Tri Sugar Shield™** delivers the **widest possible support** to help naturally stabilize already healthy glucose levels!

The suggested daily dose of **one** vegetarian capsule taken twice daily before the heaviest carbohydrate or sugar-containing meals/drinks of **Tri Sugar Shield™** provides:

| | |
|---|---------------|
| Sorghum bran (<i>Sorghum bicolor</i>) extract [providing 540 mg proanthocyanidins (540 mg)] | 600 mg |
| White mulberry extract (leaf) [providing 15 mg 1-deoxynojirimycin] | 300 mg |
| Phloridzin [from apple extract (root bark)] | 100 mg |

A bottle of 60 vegetarian capsules of **Life Extension® Tri Sugar Shield™** retails for \$36. If a member buys four bottles, the price is reduced to **\$24** per bottle.

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

BREAST HEALTH FORMULA

Broad-Spectrum Support For Optimal Breast Health

Now more than ever before, women are being proactive about supporting breast health. One of the most important actions you can take is to maintain a healthy balance between "good" and "bad" estrogen.

Women seeking to proactively restore their youthful hormonal balance can take **Breast Health Formula**, Life Extension's phytonutrient-based formula that helps support healthy estrogen activity and detoxification.

Breast Health Formula provides nutrients that have demonstrated broad-spectrum support for preserving optimal breast health:

- **Phytoestrogens** prevent bad estrogen from exerting its harmful effects.
- **Plant lignans** favorably alter estrogen metabolism.
- **Cruciferous Vegetable Extracts** (such as I3C) increase good estrogen while reducing bad estrogen.
- **Calcium D-Glucarate** safely facilitates the removal of harmful estrogen from the body.
- **Vitamin D** promotes healthy genetic regulatory switching to aging cells.
- **And much more!**



The retail price for 60 capsules of **Breast Health Formula** is **\$34**. If a member buys four bottles, the price is reduced to **\$22.50** per bottle.

Contains soybeans.

To order Breast Health Formula,
call 1-800-544-4440 or
visit www.LifeExtension.com

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BY CELINE THOMPSON

Unique Probiotic Targets Cardiovascular Disease

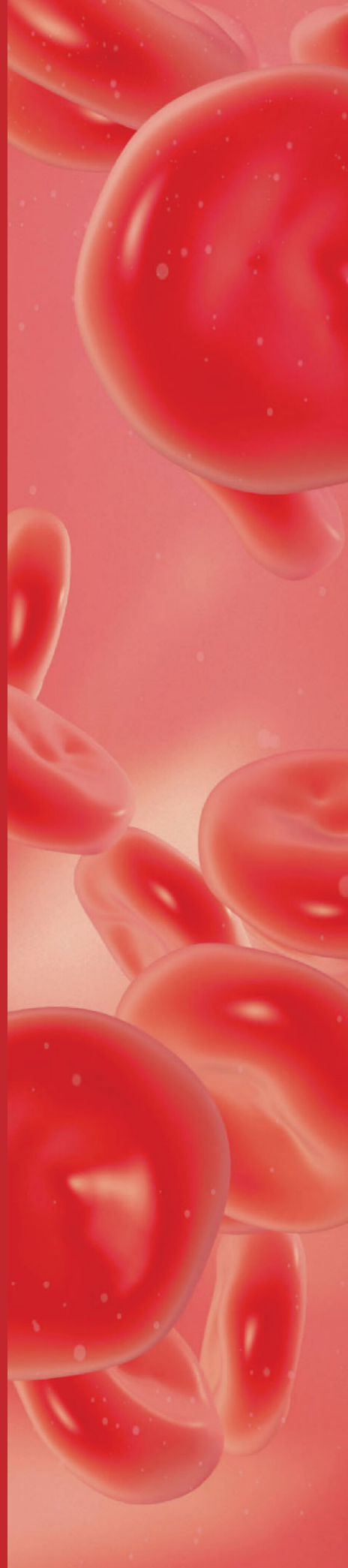
In a new and innovative field of medical study, scientists are exploring how **probiotics** play a much larger and more vital role in our health than we ever could have imagined.

In some impressive research, scientists have determined that specific strains of probiotics have the ability to target disease-specific risk factors—especially those related to cardiovascular disease.¹⁻⁴

Probiotics have become increasingly popular for their ability to assist in digestion and boost the body's immunity. But a specific strain of *Lactobacillus* called ***L. reuteri* 30242** has been found to work in two distinct ways to lower cholesterol: It removes excess cholesterol from the body and increases the metabolism of cholesterol.^{5,6}

Clinical studies show that ***L. reuteri*** reduces total and LDL cholesterol levels, without statin drug side effects.⁵⁻⁹

Pharmacological researchers are eager to produce drug versions of these targeted probiotics aimed at lowering cholesterol.¹⁰ The good news is that one can initiate supplementation with ***L. reuteri*** today and accomplish similar results with this natural strain of a common and beneficial member of the intestinal microbiome.





The Emerging Role Of Gut Microbes In Cardiovascular Health

Researchers are discovering that an important strategy to significantly modify the risk of dying from cardiovascular disease lies within our own intestinal tracts. The human GI tract is home to more than **100 trillion** bacteria per person. Together this giant population, which outnumbers human cells by a factor of 10, is referred to as “gut microbiota” or “gut microbiome.”¹¹

The trillions of bacteria in the intestinal tract are a key interface between the body, its genetic structure (or genome), and the environment. The results of these interactions contribute to numerous components that partly determine one’s ultimate cardiovascular risk, including body weight, energy metabolism, and lipid levels.^{12,13}

A 2014 review from the *Mayo Clinic* observed that, “It will soon be important for practicing clinicians to have an understanding of the basic concepts of the human microbiome and its relation to human health and disease.”¹⁴ At Life Extension®, we believe “soon” isn’t soon enough. Now is the time for doctors to take the importance of the gut microbiome seriously—especially as we discover its critical link to cardiovascular disease.

The Genesis Of Targeted Probiotics

Growing knowledge about bacterial biochemistry, as well as about disease-specific risk factors, has made the field of **probiotics** one of the most exciting research fields in disease prevention and longevity. Long overlooked as a matter of importance, the gut microbiome is now seen as playing a key role in maintaining optimal health and warding off the diseases of aging.

Probiotics are increasingly being investigated for their ability to change not only risk factors in the gastrointestinal tract, but also those in the body as a whole, especially the cardiovascular system.^{3,4}

At this point, scientists have only just scratched the surface of the potential benefits of probiotics for specific diseases. This is mainly because, in most instances, the mechanisms by which probiotics exert their impressive beneficial effects are still being investigated as is how to customize them to reduce specific disease risk factors.¹²

Scientists have proposed that *L. reuteri* has the ability to reduce cholesterol levels in two ways: by increasing cholesterol loss from the body in stool and by increasing the breakdown of cholesterol (catabolism) in the liver.^{1,15}

Preclinical Evidence: *L. Reuteri* Provides Multiple Cardiovascular Benefits

Elevated blood cholesterol levels, particularly levels of LDL (“bad”) cholesterol, have been associated with cardiovascular disease and early death for several decades. Yet even with so many people taking cholesterol-lowering drugs, some at-risk people are unable to get their cholesterol under control.⁶

That’s where probiotic cardiovascular protective therapy with *L. reuteri* comes in.

Animal studies show that *L. reuteri* has powerful cholesterol-lowering properties. In one study, pigs were fed a high-fat, high-cholesterol, low-fiber diet (like that of many Americans). After four weeks of supplementation with *L. reuteri*, they experienced significantly lower total and LDL cholesterol compared to control pigs, with no changes in HDL (“good”) cholesterol levels.¹⁶

A similar study in mice demonstrated beneficial changes in cholesterol in much less time. After just seven days, mice supplemented with *L. reuteri* experienced a **38%** reduction in total cholesterol, bringing their levels close to those of healthy controls.¹⁷ Supplementation also reduced blood triglycerides by **40%** and raised the ratio of beneficial HDL to LDL cholesterol by **20%**.

The researchers took the study a step further to determine if supplementation with *L. reuteri* could *prevent* unhealthy rises in cholesterol. Remarkably, they found that it can. When mice were supplemented with *L. reuteri* **prior to** being fed a high-fat diet, the probiotic was able to prevent elevations in cholesterol and increase the beneficial HDL to LDL ratio.¹⁸



In addition, *L. reuteri*-supplemented mice fed a Western-style diet that contained substantial cholesterol gained significantly less body weight, with lower total and liver fat accumulations, than did unsupplemented control mice fed the same diet.¹⁹

Clinical Evidence: *L. Reuteri* Substantially Lowers Cardiovascular Risk

Human studies on *L. reuteri* supplementation have yielded some impressive results.⁵⁻⁷

In one study of adults with elevated cholesterol, subjects consumed either a regular yogurt or one supplemented with *L. reuteri*.⁵ Over a six-week period, supplemented patients' total cholesterol dropped nearly **5%** and LDL cholesterol fell by nearly **9%**. Supplemented patients also had a significant decline in concentrations of *apolipoprotein B-100* (apoB-100), a marker of LDL particle number and a known risk factor for cardiovascular disease.²⁰

Another study demonstrated similarly impressive results in a group of adults with high cholesterol. After taking *L. reuteri* organisms in capsule form for nine weeks, LDL cholesterol fell by nearly **12%**, total cholesterol fell by **9%**, non-HDL cholesterol fell by **11%**, and apoB-100 fell by **8%**, with a reduction in the LDL to HDL cholesterol ratio of **13%**.⁶

This study also demonstrated the long-term benefits of such cholesterol reduction because of its positive impact on two important markers of inflammation: high-sensitivity C-reactive protein (hs-CRP) and fibrinogen. In the patients taking *L. reuteri*, hs-CRP was reduced by **1.05 mg/L (62%)** and fibrinogen was reduced by **14%**.

For subjects who began the study with hs-CRP levels in the average or high-risk categories at baseline, **27.1%** of supplemented patients reduced their risk category by one or more risk categories (e.g., from high to average risk, from average to low risk, or from high to low risk), compared to only **1.7%** of control subjects. And **22%** of supplemented patients decreased their hs-CRP risk category by one risk group (e.g., high to average risk or average to low risk), compared to just **2%** of controls.⁶

How *L. Reuteri* Reduces Cholesterol Levels

The key to success for *L. reuteri* is in its ability to produce an enzyme called **bile salt hydrolase**. This enzyme makes cholesterol less absorbable so that instead of being absorbed into the bloodstream, it becomes trapped in the gut, then later excreted in fecal matter.²¹



What You Need To Know

Probiotic Targets Heart Disease

- Cardiovascular disease continues to be a leading killer of Americans, despite advances in drug and surgical therapies.
- Probiotics (cultures of beneficial organisms) have long been used to promote gastrointestinal health.
- New research is producing a generation of “condition-specific” probiotics, each aimed at addressing a particular disease associated with aging.
- One of the first such probiotic supplements to reach the market is the patent-protected *Lactobacillus* strain called *L. reuteri* 30242.
- *L. reuteri* produces a specific enzyme that “traps” cholesterol in the intestine and prevents it from being reabsorbed, thereby lowering plasma cholesterol levels.
- Further cholesterol reductions come from the organism's ability to increase cholesterol metabolism, thereby promoting its breakdown and excretion.
- Clinical studies show that *L. reuteri* supplementation rivals certain cholesterol-lowering drugs in its ability to reduce dangerous total and “bad” cholesterol levels without side effects, while also reducing markers of inflammation that further promote cardiovascular disease.
- Anyone who is seriously concerned about reducing the risk of early death from heart attack, stroke, or other cardiovascular catastrophe should begin supplementation with this cutting-edge probiotic.

Like all fats, cholesterol in its free state cannot dissolve in water (think of how oil and water separate in a jar) and is not easily absorbed on its own. This creates a problem because cholesterol—both LDL and HDL—is beneficial for the body and is necessary for functions such as forming cell membranes and creating hormones.

In order to make cholesterol more absorbable, liver cells produce free bile acids, which are then bonded (conjugated) to the amino acids glycine and taurine and secreted into the intestines.²² Conjugated bile acids are more water-soluble than free bile acids, meaning they are better able to assist with the absorption of cholesterol.¹⁵

The problem is that when too much cholesterol is available, either from excess dietary consumption or excess release from the liver into the small intestine, the **reabsorption** of cholesterol causes the body to maintain blood cholesterol levels higher than necessary, raising cardiovascular disease risk.²³⁻²⁷

The bile salt hydrolase (enzyme) activity of *L. reuteri* breaks the chemical bonds of conjugated bile acids, thereby releasing free bile acids, which are less water-soluble.^{15,21,28} In essence, in the presence of *L. reuteri*, cholesterol molecules may become trapped inside the gut, where they are then excreted.²¹ This process interrupts regular cholesterol reabsorption, helping lower blood cholesterol levels.

Unique Cholesterol-Lowering Mechanism Of *L. Reuteri*

L. reuteri is believed to have a second mechanism that further lowers blood cholesterol and cardiovascular risk.

In addition to being reservoirs for excess cholesterol, bile acids are also potent signaling molecules that regulate cholesterol metabolism via the action of the *farnesoid X receptor* (FXR).²⁹⁻³² When conjugated bile acids break apart (in the presence of *L. reuteri*), that signaling is modulated, which then accelerates the breakdown and excretion of cholesterol.^{22,23} Furthermore, the modified bile acid signaling resulting from *L. reuteri* limits additional cholesterol absorption from the intestine while boosting cholesterol secretion from the liver back into the intestine for ultimate excretion.^{24,33,34}

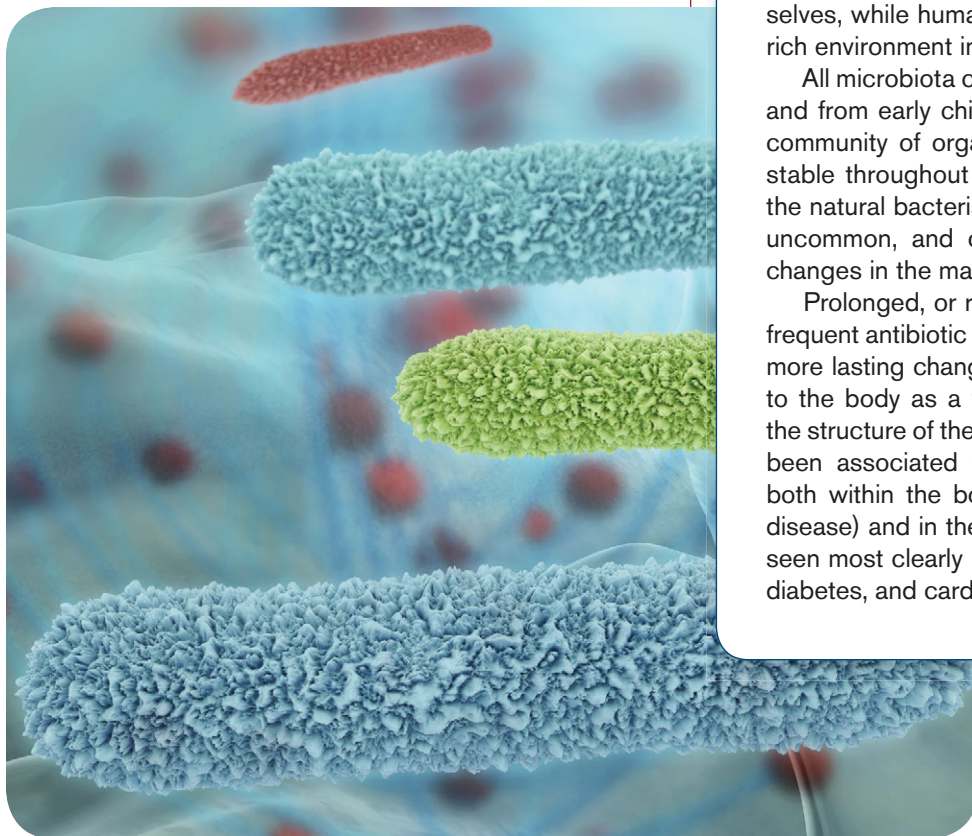
The Gut Microbiome

The human GI tract is home to more than **100 trillion** bacteria per person. Together this giant population is referred to as the gut **microbiota**, or gut **microbiome**.¹¹

These organisms have evolved along with their human hosts to produce a mutually beneficial relationship.^{11,41} Gut organisms produce critical molecules that humans cannot make for themselves, while humans provide a safe and nutrient-rich environment in return.¹¹

All microbiota come from our mothers (at birth) and from early childhood environments, and this community of organisms can remain remarkably stable throughout our adult lives. Disruptions to the natural bacterial community, however, are not uncommon, and can cause at least temporary changes in the makeup of the community.¹¹

Prolonged, or repeated disturbances, such as frequent antibiotic use or a poor diet, can produce more lasting changes, many of which are harmful to the body as a whole.¹¹ Certain disruptions in the structure of the microbial community have now been associated with specific health problems both within the bowel (e.g., inflammatory bowel disease) and in the body as a whole. This can be seen most clearly in obesity, metabolic syndrome, diabetes, and cardiovascular disease.^{11,14,42}



In one study, when patients were supplemented with *L. reuteri*, they showed a significant *increase* in blood levels of free bile acid and significant *decreases* in the absorption of plant-derived cholesterol-like molecules.⁶ In a later re-analysis of data from this study, researchers also found that supplementing with *L. reuteri* not only improved cardiovascular risk by reducing cholesterol and markers of inflammation, it also improved general intestinal health and reduced symptoms related to diarrhea, compared with placebo recipients.³⁵

Superior Cardiovascular Support

A direct comparison of *L. reuteri* supplementation with other heart health-promoting supplements is eye-opening. Plant-derived sterols, soy, and fiber supplements all have beneficial effects on cholesterol reduction. However, the probiotic is superior in terms of its effects on inflammatory markers of cardiovascular risk (e.g., CRP and fibrinogen), in promoting gastrointestinal health, and in terms of its low dose (**100 mg/dose**) compared with doses in the range of **1 to 50 grams** for the others. (See Figure 2)

Pharmacology researchers are eager to exploit the role of bile acids as cholesterol-regulating signals, and have already rushed to produce semisynthetic versions aimed at lowering cholesterol.¹⁰ But simply supplementing with *L. reuteri*, a patent-protected strain of probiotic, can provide effective results using a safe, natural strain of a common, beneficial member of your own intestinal microbiome.

Other *Lactobacillus* Research

In their search for effective, targeted probiotics that can address the underlying cause of disease, scientists began looking at *Lactobacillus*, a large genus of beneficial organisms abundant in the human gastrointestinal and female reproductive tracts. In various experiments, *Lactobacillus* has been bred into numerous strains, each with different biochemical activities. Here are the results of several experiments in which *Lactobacillus* modified the various risk factors of cardiovascular disease:

- Probiotic *Lactobacillus* species fed to obese mice on high-fat diets reduced pro-inflammatory status of blood vessels, while reducing insulin resistance and blood sugar, two major risk factors for heart disease.⁶²
- Milk fermented with *Lactobacillus* species lowered glucose, homocysteine, and inflammatory markers in women with metabolic syndrome, a major cardiovascular risk factor.⁶³
- Critically ill ICU patients at risk of cardiac injury who were given probiotics produced significant decreases in triglycerides and C-reactive protein (CRP, a measure of inflammation) and increases in HDL. No changes were noted in placebo recipients.⁶⁴

Expanding Roles And Mechanisms Of Probiotics' Widespread Actions^{4,14}

| New Roles For Probiotics To Prevent | Proposed Mechanisms Of Action |
|--|--|
| Allergic disorders Autoimmune diseases Cardiovascular diseases <i>Clostridium difficile</i> infection Diabetes High blood pressure High cholesterol High homocysteine levels Inflammatory bowel disease Multidrug-resistant organism colonization Neuropsychiatric illnesses Obesity and metabolic derangements Oxidative stress | Modulating central nervous system activity Modulating immune response Producing specific molecules Releasing specific enzymes |



Although, many *Lactobacillus* bacteria are “generally recognized as safe” by the Food and Drug Administration, *L. reuteri* has also undergone extensive laboratory characterization and safety testing. *L. reuteri* has demonstrated no adverse effects associated with its consumption as a supplement, including no loss of fat-soluble vitamins (A, D, E, and beta carotene).³⁶⁻⁴⁰ In fact, research demonstrates that *L. reuteri* supplementation can increase levels of the heart-protective vitamin D by nearly **26%**.³⁷ (See Figure 1)

Summary

With high cholesterol and other lipid disturbances remaining unchecked, premature deaths from cardiovascular disease continue to occur, despite drug treatments and their attendant side effects.

A new strain of natural probiotic, *Lactobacillus reuteri*, is about to change all that. This organism can lower cholesterol in two ways: by increasing cholesterol loss from the body through stool and increasing cholesterol metabolism.

Probiotic *L. reuteri* does all this by secreting a potent enzyme called *bile salt hydrolase*, which traps cholesterol in the intestinal tract and increases signaling to liver cells to metabolize cholesterol.

Clinical studies demonstrate that *L. reuteri* effectively lowers levels of total and LDL-cholesterol, while driving down inflammation and reducing other metabolic disturbances that raise cardiovascular risks.

A safe, natural probiotic, *L. reuteri* is one of the first “condition-specific” probiotics, designed and developed specifically to fight risk factors that lead to heart attacks, strokes, and other cardiovascular catastrophes.

Even those without overtly elevated cardiovascular risk factors will benefit from *L. reuteri* supplementation; the probiotic has been shown to *prevent* diet-induced lipid disturbances as well as resolve them. *L. reuteri* supplementation is an important part of an overall strategy for reducing the risk of heart disease. ●

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

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FIGURE 1: How *L. Reuteri* Helps The Body

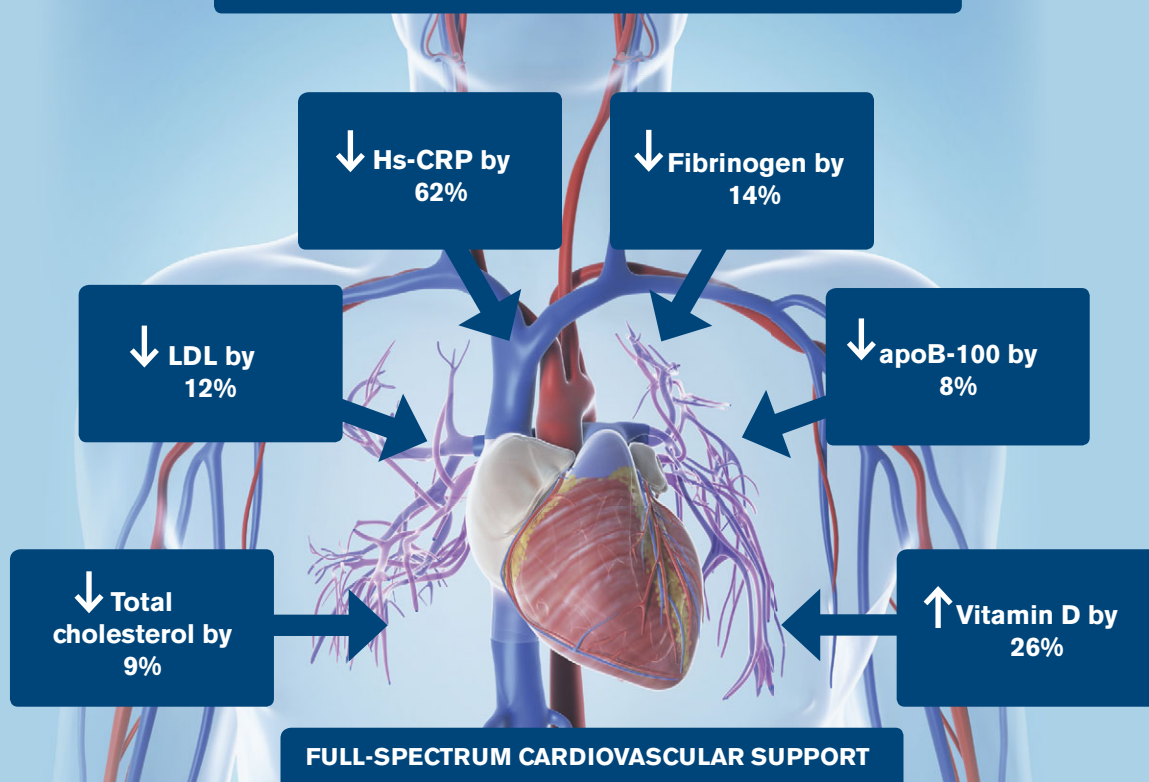


FIGURE 2: Comparison Of *L. Reuteri* With Other Heart-Healthy Supplements^{5,6,35,43-61}

| | Reduction in LDL-C | Reduction in total C | Effect on HDL/LDL Ratio | Effect on CV inflammatory markers | Effect on GI health | Dose |
|--------------------------------------|--------------------|----------------------|-------------------------|-----------------------------------|---------------------|------------|
| <i>L. Reuteri</i> NCIMB 30242 | ~12% | ~9% | Yes | Yes | Yes | 100 mg |
| Plant sterols | ~9% | ~5% | Yes | Inconsistent | No | Up to 2 g |
| Fish oil | variable | variable | Yes | Yes | No | Up to 4 g |
| Soy | ~5% | ~5% | Yes | No | No | Up to 50 g |
| Fiber | ~7% | ~5% | Yes | Yes | Yes | ~10 g |

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|---|---------------|
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|--|-------------------------|
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|--|-------------------------|

* Colony Forming Units



Item # 01821

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Natural Extracts Lower **BLOOD PRESSURE**

The **World Health Organization** has determined that **hypertension** is *the* leading cause of cardiovascular mortality.¹

It affects as many as 1.5 billion people worldwide and is a major risk factor for **atherosclerosis**.

Drug therapy for hypertension is often comprised of one or a combination of medications that may include an angiotensin II receptor blocker, calcium channel blocker, beta blocker, angiotensin converting enzyme (ACE) inhibitor, and/or a diuretic.^{2,3}

Some of these drugs and drug combinations have potential side effects, which is troubling since blood pressure medications may be required for the rest of a person's life.^{4,5} That does not mean a person with hypertension should discontinue their prescribed medications. But if natural approaches can reduce blood pressure readings so that drug doses can be reduced or eliminated, then side effect concerns can be mitigated.

In an exciting new discovery, scientists have uncovered two natural extracts that have similar mechanisms to some of the most effective drug therapies for hypertension.



Olive leaf extract has been shown to function as an ACE inhibitor and **celery seed extract** has potent calcium channel blocking properties.^{6,7} Clinical studies have demonstrated that both extracts are able to safely lower blood pressure.^{8,9}

These specialized extracts offer a natural approach to blood pressure management.

Current Treatments For Hypertension

Numerous recent, large, randomized clinical trials have indicated that treating hypertension in older adults can reduce the risk of kidney disease, stroke, and cardiovascular events.¹⁰ Unfortunately, bringing blood pressure down to healthy levels is easier said than done.

Many clinicians start therapy with a mild diuretic (“water pill”) at low doses, then gradually increase doses until either blood pressure is controlled or the maximum dose is reached.¹⁰

However, nearly **75%** of patients do not get adequate blood pressure control on a single drug, which means a second medication is often necessary.¹¹ This process may continue until a person finds himself or herself on three, four, or more drugs.^{2,11,12}

A frequently prescribed class of antihypertensives used today are the **angiotensin II receptor blockers**. These drugs block the angiotensin II receptor and often induce more profound and sustained blood pressure control than older classes of medications. However, there are side effect risks associated with angiotensin II receptor blocker drugs. In some individuals, angiotensin II receptor blockers can cause an increase in potassium and changes in kidney function. Also, do not take angiotensin receptor blockers if you are pregnant or plan on becoming pregnant because this class of medication can cause harm to the fetus.

One of the most commonly used approaches to treating hypertension involves the combination of two drugs: an ACE inhibitor and a calcium channel blocker.^{2,3} A large 2013 study demonstrated that for most people, this combination was more effective at

reducing cardiovascular consequences of hypertension than using either drug with a diuretic.¹³ This combination also demonstrated the greatest probability of reducing death.¹⁴

Here’s how the combination drug therapy works.

Angiotensin converting enzyme, or ACE, is a natural enzyme in the body that activates the hormone *angiotensin*, which causes blood vessels to constrict, thus increasing blood pressure.¹⁵ Inhibiting ACE can return blood pressure to lower levels. ACE inhibitors alone, however, are not always entirely effective, which is why doctors often combine them with a second drug called a calcium channel blocker.¹⁶

Calcium channel blockers lower blood pressure by a different mechanism than ACE inhibitors. They prevent the entry of calcium ions into muscle cells in the arterial wall. Since calcium ions are a major signal telling those cells to contract and raise muscle tone in the artery, blocking calcium influx into the cells will prevent contraction and lower blood pressure.¹⁷

Use of the combination of an ACE inhibitor and a calcium channel blocker has become one of the mainstays of modern pharmacological blood pressure control, since the two drugs act in parallel, but different ways. Unfortunately, as is usually the case, both drugs bring with them side effects.^{17,18}

Scientists have discovered two natural ingredients that work in ways similar to mainstream drugs, but without the numerous side effects. Olive leaf extract and celery seed extract act as ACE inhibitors and calcium channel blockers, respectively.^{6,7} Each has been shown in clinical studies to lower blood pressure.



Olive Leaf Extract: A Natural ACE Inhibitor

Extracts from leaves of the olive tree (*Olea europaea*) contain compounds known as *secoiridoid glycosides*.⁶ When ingested, these substances break down into molecules with the ability to inhibit angiotensin converting enzyme (ACE) and its harmful effects on blood vessels.^{6,19} Studies now show that olive leaf extract is effective at lowering blood pressure, just as would be expected from an ACE inhibitor.²⁰

In preclinical trials, researchers found that when they gave rats an olive leaf extract at the same time as hypertension-inducing chemicals,

it prevented them from developing experimentally induced hypertension.²¹ Similarly, in rats that had already been hypertensive for six weeks, administration of olive leaf extract normalized blood pressure, even when the rats continued receiving the hypertension-inducing chemical.²¹ Animal studies have also shown that olive leaf extract is effective at reducing the signs of metabolic syndrome, a major cardiovascular risk factor.²²

Human studies have been extremely encouraging as well. A cleverly designed human trial using identical twins demonstrated the antihypertensive effects of olive leaf extract, with one twin serving as a control.⁸ Treated twins received either **500 or 1,000 mg/day** of the extract while the other received advice regarding a “favorable lifestyle.”

After eight weeks, compared to their controls, twins taking **500 mg/day** saw an average drop in systolic pressure of **6 mm Hg**, while the twins taking **1,000 mg/day** saw an average drop in systolic pressure of **13 mm Hg**. In the group taking the higher dose, blood pressure fell from an average of **137/80** at baseline to **126/76** after eight weeks and LDL cholesterol was also reduced.

Olive leaf extract was recently compared directly with the ACE inhibitor *captopril* in patients with Stage I hypertension and it was found to be almost equally as effective.²⁰ The extract dose was fixed at **500 mg** twice daily for the eight weeks of the study, while *captopril* dosing started at **12.5 mg** twice daily, and increased to **25 mg** twice daily if needed for blood pressure control.

At the end of the study, both groups experienced significant reductions in systolic and diastolic blood pressure as compared to baseline. The olive leaf extract group experienced a mean systolic blood pressure reduction of **11.5 mm Hg**, while the *captopril* group reduced systolic blood pressure by **13.7 mm Hg**. Diastolic pressures fell **4.8 mm Hg** in the olive leaf extract group and **6.4 mm Hg** in the *captopril* group. The differences between groups were not statistically significant.²⁰

In addition, triglyceride levels fell significantly from baseline in the olive leaf supplemented group but not in the drug group. This important study showed that olive leaf extract was similar in effect to the ACE-inhibiting drug, but with the added benefit of triglyceride reduction.

A subsequent human study showed that olive leaf extract could also improve insulin sensitivity by **15%** in overweight middle-aged men, an important step in further reducing cardiovascular risk.²³ It also led to a **28%** improvement in pancreatic responses to blood sugar.



What You Need To Know

Natural Extracts Lower Blood Pressure

- High blood pressure (hypertension) is the leading cause of cardiovascular disease and is an important contributor to premature death and disability.
- Despite widespread awareness of hypertension as a health threat, only a minority of Americans manage to control their blood pressure.
- Patients using prescription medications may have to take two or more drugs before their blood pressure is controlled.
- One of the most effective drug combinations pairs an angiotensin converting enzyme (ACE) inhibitor with a calcium channel blocker.
- New scientific evidence shows that olive leaf extract provides ACE inhibition, while celery seed extract offers calcium channel blocking effects.
- Each of these supplements has independently been shown to lower blood pressure in human trials.
- ACE inhibition plus calcium channel blocking effects are available through the use of the natural ingredients olive leaf and celery seed extract.

Why At-Home Blood Pressure Testing is So Important

To ensure that the drugs, nutrients, and lifestyle changes you are using to combat **hypertension** are achieving **optimal** results, have your blood pressure checked regularly.

Ideally this should be done every **12 hours** initially using an at-home monitoring device.

The reason you should check every 12 hours is that some blood pressure drugs wear off after 12-18 hours, leaving you vulnerable to considerable periods of higher-than-desired blood pressure. It's during periods of high blood pressure that damage to the delicate **endothelial** linings of our arteries occurs.

Once you have established a program of drugs, nutrients, and/or lifestyle that produces reliable optimal blood pressure ranges, then testing several times a week should be adequate for most people.

Relying only on your doctor to check your blood pressure exposes you to long periods when your blood pressure could be dangerously elevated without you or your doctor knowing it. We offer an at-home blood pressure testing device to our members. You can also purchase one at your local pharmacy.

Celery Seed Extract: A Natural Calcium Channel Blocker

Celery is a simple food with a complex chemical makeup. Studies show that celery seed components produce a relaxing, dilating effect that lowers blood pressure. This appears to occur, at least in part, by blocking or antagonizing the flow of calcium into muscle cells lining blood vessels—similar to the action performed by calcium channel blocking drugs.^{7,24,25} One key blood pressure-lowering compound in celery seeds has the technical name of **L-3-n-butylphthalide**, abbreviated as **3nB**.^{26,27}

3nB has been used in a number of studies for the management of vascular diseases in the brain, such as stroke and vascular dementia.^{26,28,29} And even now, a synthetic form of 3nB is being developed as a drug in China for the treatment of cerebral ischemic stroke and mild cognitive impairment as well as for the prevention of Alzheimer's disease—all of which have components of abnormalities in blood flow.^{26,30-33}

Animal and lab studies reveal that 3nB-rich extracts of celery seeds produce blood pressure reductions of up



to **38 mm Hg** in hypertensive rats (this effect was not seen in those with normal blood pressures).²⁷ Animal studies also demonstrate that celery seed extract has no significant toxic effects even at very high doses.³⁴

A human study demonstrating the effectiveness of a celery seed extract standardized to **85% 3nB** recently appeared in the *Natural Medicine Journal*.⁹ For the study, 30 middle-aged patients with mild-to-moderate hypertension took **75 mg** doses of a celery seed extract twice daily for six weeks. To obtain an equivalent amount of 3nB, one would have to consume approximately 530 stalks (nearly 50 pounds) of celery.

Mean blood pressures at baseline were **139.4/85.4 mm Hg**. At three weeks, they fell to **134.8/80.9**, and at six weeks they fell to **131.2/76.9**. This represents total drops of **8.2 mm Hg** systolic and **8.5** diastolic from baseline.

Of great importance, while pharmacological calcium channel blockers and ACE inhibitors are known to reduce blood flow to the brain—which can leave patients feeling tired, depressed, dizzy, or forgetful—celery seed extracts rich in 3nB appear to *improve* brain blood flow, prevent stroke, and may protect brain cells and enhance their energy consumption.^{9,30,33,35}



Hypertension: The Silent Killer

Olive leaf and **celery seed** extracts could not have been developed at a better time. Hypertension is quickly becoming a global epidemic.¹ It is estimated that nearly **30%** of adults around the globe have hypertension³⁶—and that percentage climbs to **75%** in some European nations.³⁷ Even in the US, which has one of the highest rates of awareness of the disease, hypertension affects between nearly **30** to **50%** of the population.³⁷⁻³⁹

Hypertension has long been known as the “silent killer.”^{8,40} Despite increased awareness and treatment of hypertension, it is estimated that more than **50%** of people worldwide with high blood pressure are unaware of their condition, and only a minority have been able to achieve control of their blood pressure.^{41,42}

If you're unsure of your blood pressure levels, you should have them tested as soon as possible. **Life Extension** suggests that optimally, blood pressure should be maintained at **115/75 mm Hg**. Blood pressure levels greater than **139/89 mm Hg** should be treated right away. Talk to your doctor about possible treatments and consider adding the combination of celery seed extract and olive leaf extract to your treatment plan.

Rather than blindly assuming anything works, obtain an **at-home blood pressure monitor** to ensure that the drugs, nutrients, and lifestyle changes you are using to lower blood pressure are achieving **optimal** results.



Summary

Despite billions of dollars spent on drugs to lower blood pressure,⁴³ Americans are still losing the battle to keep their hypertension under control. Even drugs that are effective at bringing down high blood pressure have uncomfortable, sometimes dangerous, side effects.

One of the most effective blood pressure drug combinations is an ACE inhibitor paired with a calcium channel blocker. But for those with early or mild-to-moderate hypertension (Stage I), ACE inhibition and calcium channel blocking may be accomplished with extracts from olive leaf and celery seed, respectively. Even those with more advanced cases of hypertension may be able to reduce their dosing of drugs by adding this nutrient combo.

Clinical studies show that each of these supplements alone is effective at significantly lowering blood pressure, generally without the adverse effects often associated with prescription medications. Using olive leaf and celery seed extract together is a powerful natural combination modeled on solid science. ●

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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The Dangers Of High Blood Pressure

Hypertension is classified as blood pressure greater than **139/89 mm Hg**.

It is now reported that once you are older than 50, a systolic (top number) blood pressure higher than **140 mm Hg** is a greater cardiovascular risk factor than diastolic (bottom number) pressure.⁴² As blood pressure increases, cardiovascular disease risk rises rapidly. Beginning at **115/75**, risk doubles for each additional **20/10 mm Hg** rise. Even among those with normal pressures at age 55, the lifetime risk for developing hypertension is **90%**.⁴²

TABLE 1: Select Side Effects Of ACE Inhibitors And Calcium Channel Blocking Drugs^{17,18,53}

| ACE Inhibitors | Calcium Channel Blockers |
|-----------------------------|--------------------------|
| Cough | Flushing |
| Dizziness | Headache |
| Fatigue | Rapid heart rate |
| Headache | Swelling |
| High blood potassium | |
| Low blood pressure | |
| Rash | |
| Renal impairment | |
| Taste disturbances | |
| Worsening inflammatory pain | |

TABLE 2: Classification Of Blood Pressure For Adults^{42,44}

| Classification | Systolic Pressure (mm Hg) | Diastolic Pressure (mm Hg) |
|--------------------------------|---------------------------|----------------------------|
| Normal | <120 | <80 |
| High normal or prehypertension | 120–139 | 80–89 |
| Stage I hypertension | 140–159 | 90–99 |
| Stage II hypertension | ≥160 | ≥100 |

Although the consequences of untreated hypertension take time to develop, they are deadly when they arise and can include coronary artery disease, heart failure, and atrial fibrillation, a common arrhythmia.⁴⁵

There is now evidence that cardiac disease related to hypertension has its origins early in life.⁴⁵ Arterial stiffening, occurring with age and advancing atherosclerosis, is a major underlying cause of adult hypertension, especially so-called “isolated systolic hypertension,” in which only the systolic (top) number in the measurement is elevated.⁴⁶ Stiff arteries create “back pressure” on the heart, which not only further raises blood pressure, but also puts extreme stress on the heart muscle, leading eventually to heart failure, coronary artery disease, stroke, vascular dementia, and chronic kidney disease.⁴⁶

Are You Predisposed To High Blood Pressure?

Many conditions cause or predispose a person to having hypertension.

Over **25%** of US adults have metabolic syndrome, which includes hypertension as one of its defining features.⁴⁷

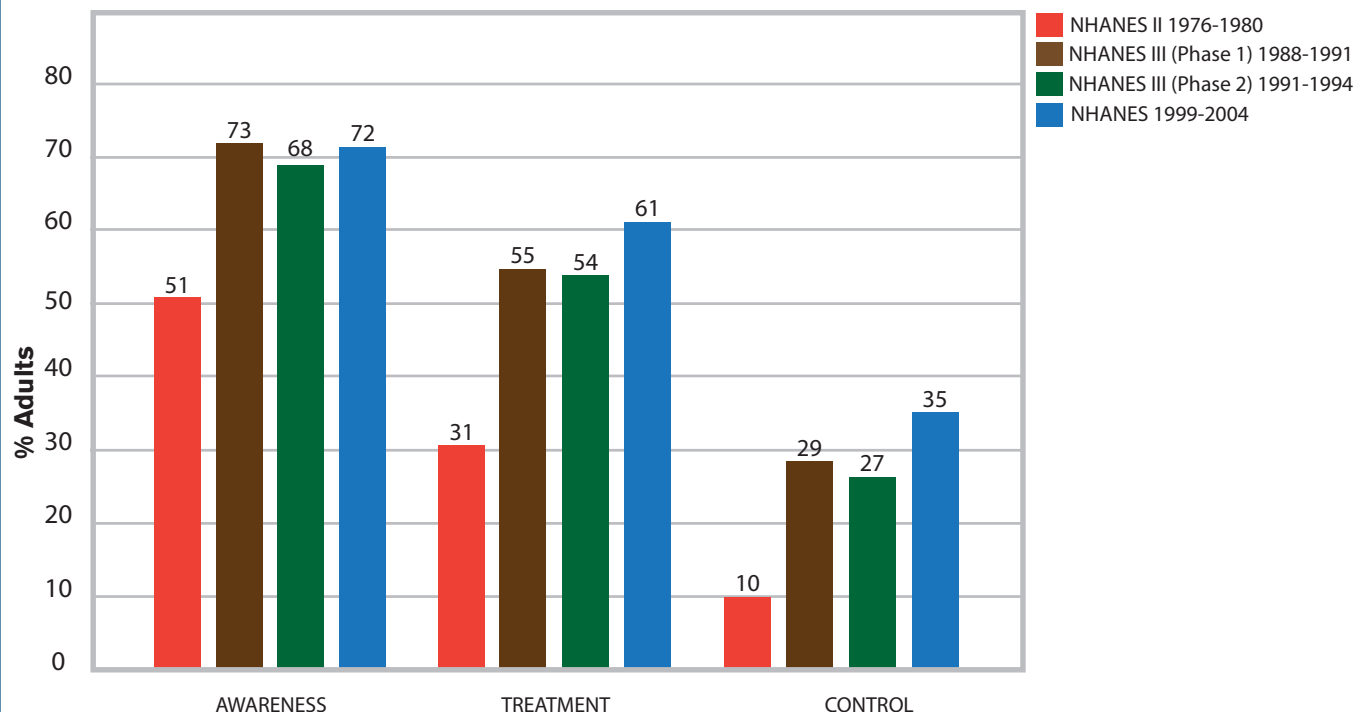
Obesity, another component of metabolic syndrome, is a leading cause of high blood pressure, with **60 to 70%** of hypertension in adults related to excess body fat, especially “central” obesity located around the abdomen.⁴⁸ Being overweight or obese is associated with a significantly increased risk of hypertension compared with people of normal weight.^{49,50} Obesity imposes unusual stresses on the body’s self-regulatory mechanisms, among which are over-activation of the renin-angiotensin-aldosterone hormone system, which promotes fluid retention and boosts blood pressure.^{48,51}

High levels of uric acid in the blood is directly related to hypertension. In one study, people with high uric acid levels were **2.6 times** more likely to have high blood pressure than those with normal levels. And people with both high uric acid and obesity were more than **4.5 times** as likely to be hypertensive, compared with normal-weight people with normal uric acid levels.⁵⁰

Another cause of hypertension is obstructive sleep apnea (also called obstructive sleep apnea-hypopnea syndrome), in which a person’s breathing temporarily ceases or becomes very shallow during sleep.⁵² In one study, over **50%** of people with the syndrome had hypertension compared with only **30%** in controls.⁵²

Regardless of the cause of hypertension, it is essential to treat it.

Figure 1: Blood Pressure Awareness And Treatment In America



While most Americans are aware of hypertension’s risks and many are receiving treatment, only a minority have been able to successfully control their blood pressure. The colored bars above represent the percentages of American adults who express awareness of the dangers of hypertension, those who are being treated for hypertension, and those who have their hypertension under control. Each color represents a different National Health and Nutrition Examination Survey (NHANES) study, which began in 1976.

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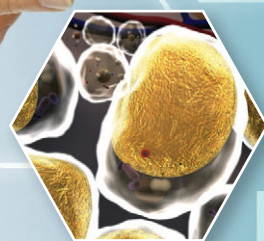
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This supplement should be taken in conjunction with a healthy diet and regular exercise program. Results may vary.

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DO YOU KNOW WHAT YOUR **BLOOD PRESSURE** *REALLY* IS?

Many don't...and are needlessly dying because of it!

Frightening studies have found that most people taking blood pressure medications still have high blood pressure—even when under medical supervision. This means prescription drugs and physician care are **not enough** to adequately **control** blood pressure.

One reason medications fail is that hypertension can be caused by several underlying factors. While a drug may reduce blood pressure *somewhat*, it often requires a comprehensive program—including lifestyle changes and specific nutrients—to achieve optimal readings of below **120/80**.

Another problem is that overworked doctors often prescribe the same drug, in the same dose, to all their patients. As proved by published data, this does not work.

TAKE CONTROL OF YOUR BLOOD PRESSURE—AND YOUR LIFE!

Over the past 15 years, home blood pressure monitors have come a long way. In fact, some home monitors are even being used in doctors' offices.

The availability of these monitors enables consumers to test their own blood pressure several times a day to ensure that whatever program they're following is actually working.

In some cases, a doctor prescribes a once-a-day dose of a blood pressure pill that fails to provide **24-hour** control. By testing blood pressure at home **several times a day**, you can inform your physician that you need the medication more often.

And, in many cases, drugs only provide a partial blood pressure reduction. With your own testing, **you** are in control of lifestyle decisions and nutrient interventions that will enable you to achieve optimal blood pressure—with or without medication.

THE BEST BLOOD MONITOR ON THE MARKET

There are a lot of blood pressure monitors out there. **Life Extension®** conducted a thorough analysis of what's available to find the **best features** at the **best price**.

Life Extension® has identified as the best a fully automatic at-home monitor called the **LifeSource® One Step-Plus Blood Pressure Monitor** that incorporates the latest technology for accurate measurements combined with state-of-the-art features. We are offering this monitor to members at a substantial discount.

Some of these features include:

- Simultaneous readouts of systolic/diastolic pressure, plus pulse rate.
- A lifesaving irregular heartbeat detection feature.
- One-button operation.
- An easy-to-read digital display.
- An AC plug-in adaptor (it also runs on batteries).
- A large cuff that fits most arms.
- A 30-reading memory with average-reading display.
- A lifetime warranty.

The **LifeSource® One Step-Plus Blood Pressure Monitor** retails for \$99.95, but Life Extension members pay only **\$49.99**.



Item # 70000

**To order the LifeSource® One Step-Plus Blood Pressure Monitor
call 1-800-544-4440 or visit www.LifeExtension.com**

Olive Leaf

WITH CELERY SEED EXTRACT

Advanced Vascular Support Formula

Advanced Olive Leaf Vascular Support with Celery Seed Extract is a unique, *dual-action* formulation containing two *bioactive compounds* that support optimal cardiovascular health.

1. **Olive Leaf extract** contains **oleuropein**, a natural compound that supports healthy blood pressure already within the normal range.

Researchers using **1,000 mg** per day of **olive leaf extract** in a controlled clinical trial documented an average **11 mm Hg** decline in systolic readings and a **4.8 mm Hg** drop in diastolic readings within eight weeks!¹

2. **Celery seed extract** contains **3-n-butylphthalide (3nB)**, which supports a healthy inflammatory response that is critical to maintaining a healthy circulatory system.² **Celery seed** also helps minimize the flow of calcium into the muscle cells lining blood vessels, promoting healthy blood pressure already within the normal range.^{3,4}

In a controlled clinical trial, researchers using an equivalent amount of active compounds as found in this **celery seed extract** documented an average **8.2 mm Hg** decline in systolic readings and **8.5 mm Hg** drop in diastolic readings—in just six weeks!⁵

While **olive leaf** and **celery seed extracts** show impressive support individually, **Advanced Olive Leaf Vascular Support with Celery Seed Extract** combines two bioactive compounds to provide **dual-action** vascular support.



The suggested daily dose of **two vegetarian capsules** of **Advanced Olive Leaf Vascular Support with Celery Seed Extract** provides:

| | |
|--|-----------------|
| Benolea® Olive extract (leaf) | 1,000 mg |
| [standardized to 16% oleuropein (160 mg)] | |
| Celery3nB™ Celery seed extract | 300 mg |
| [standardized to 42.5% phthalides (butylphthalide and sedanolide (127.5 mg)] | |

A bottle of 60 vegetarian capsules of **Advanced Olive Leaf Vascular Support with Celery Seed Extract** retails for \$36. If a member buys four bottles, the price is reduced to **\$24** per bottle.

References

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Celery3nB™ is a trademark of Anderson Global Group, LLC.

To order **Advanced Olive Leaf Vascular Support with Celery Seed Extract**, call 1-800-544-4440 or visit www.LifeExtension.com

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

BY MICHAEL DOWNEY

Innovative, *Personalized* CANCER TREATMENT

CANCER TREATMENT

The May 7, 2014, edition of the *Journal of the American Medical Association* featured an article titled “**Cancer Care Shows Signs of Strain as Patients Live Longer.**”

It reported that by year 2030, cancer cases in the United States are expected to grow **45%**, making cancer the number one killer of Americans.

By **2025**, demand for oncology services will increase **40%**, while the supply of oncologists will go up only **30%**.

This increasing strain on oncologists will worsen the existing problem of “**practice fatigue.**” The report showed that a startling **45%** of oncologists practicing today “**feel burned out,**” 27% are likely to reduce clinical hours, and a significant number want to retire before age 65.

The report predicts dire socioeconomic problems will occur over the next 7 to 16 years as a result of the disturbing trends of increased cancer incidences and a shortage of oncology resources.

The cruel dilemma is where does this leave newly diagnosed cancer patients? For the first time in their lives, most people stricken with cancer want a concerted effort made by experts to leave no stone unturned in curing their disease with the fewest possible side effects. We say “first time in their lives,” because many of these people might tolerate mediocre service in other areas, but upon a cancer diagnosis, they want optimized comprehensive attention paid to them.



Life Extension® has been harshly critical of conventional oncology practice for the past four decades. Based on calls we receive from cancer patients, the situation of mediocre treatment is reaching crisis proportions.

This article will describe a solution that involves a concierge service provided by the **International Strategic Cancer Alliance (ISCA)**. It has collectively lost us millions of dollars since its inception, but in the process, it has saved human lives.



When one is diagnosed with cancer, finding life-saving, individualized treatments can prove difficult. What few people understand is that every patient's cancer case is different and can't be optimally treated by a "one-size-fits-all" approach.

There is an organization committed to guiding cancer patients through the treatment maze, providing assurance for those who feel their doctor is too overworked or that there are some possibilities that have not been explored.

Founded in 2007, the **International Strategic Cancer Alliance** (ISCA) is dedicated to individually assessing and managing clients' cases to ensure they are getting the best diagnostic and treatment options. This can include everything from genomic testing to petitioning for off-label drugs to nutritional support.

What often concerns patients is the feeling that—despite multiple therapy options—their medical facility may not be integrating innovative cancer therapies into a comprehensive, personalized program based on their individual situation and the totality of scientific data.

Potent Cancer Therapies Are Being Delayed—But Not For Everyone

Because cancer is a complex disease, it requires a multipronged effort to provide the best chances of attaining a cure, remission, or significant extension of life. In the research setting, exciting discoveries are occurring. Unfortunately, the process by which they are incorporated into clinical oncology practice is excruciatingly slow.

The FDA does have a "compassionate use" exemption that permits access to experimental therapies for cancer patients—provided they have first failed so-called "proven" therapies.

But when cancer cells have been exposed to conventional therapies such as radiation or chemotherapy,

they can mutate very rapidly in a way that causes them to become super-resistant to later therapies. Also, a patient's healthy cells—including dendritic cells of the immune system—are often seriously impaired by these established treatments, reducing the potential effectiveness of promising, newly emerging treatments.

So the question is: Where can a newly diagnosed cancer patient turn for a clear explanation of the most appropriate therapies—from among an array of both standard and innovative options—for his or her particular form of cancer?

Many proactive cancer patients are turning to ISCA.

ISCA aggressively seeks to identify overlooked drugs that may offer additional weapons against each client's specific malignancy and then presents these therapies to the client and the treating oncologist for consideration.

We'll look at these comprehensive and potentially lifesaving services later. But first, let's examine the reasons that oncologists don't cure more patients.

How The Medical System Fails Most Patients

The sheer volume of scientific discovery on cancer treatments is rapidly escalating and is overwhelming many overworked oncologists who may not have the time to follow every research development.

A huge amount of time and expertise is required to review complex medical literature and then translate the data into a practical treatment plan tailored for every patient's unique medical situation.

How can practicing oncologists—who often see 30 or more patients a day—stay current with the avalanche of new discoveries related to better ways of treating specific cancers?

To make matters worse, oncologists generally find themselves caught up in a system that rewards them with higher salaries and larger chemotherapy bonuses if they squeeze as many cancer patients as possible into their hectic day. It is challenging at best to find anywhere near enough time to provide optimal, comprehensive care to individual patients.

In fact, oncologists who would like to augment their conventional protocols with novel strategies can actually *lose* income due to the time it takes them to evaluate, obtain insurance company approval, and then administer additional therapies. As a result, few oncologists incorporate these improved methods into their clinical practice.

So the burden of acquiring enough information to make therapy choices and take advantage of synergistic treatment programs has fallen on the already stressed cancer patient or the caregiver.

A Comprehensive And Synergistic Solution

Newly diagnosed cancer patients realize that their very lives are at stake. They're understandably devastated and frightened.

Yet at this stressful time, they have had nowhere to turn for enlightened medical assistance in uncovering novel therapies—or a comprehensive integration of therapies—that could result in a remission, or at least significantly alleviate their particular cancer type and aggressiveness. And receiving optimal care requires customized therapies as well as state-of-the-art supportive care measures to minimize treatment toxicity.

Today, programs provided by ISCA direct clients to enlightened oncology groups that are translating this vast volume of new research and discoveries into practical treatment protocols for the immediate benefit of each individual.

This translational research approach augments the weapons already available to combat this disease—delivering the assurance that each individual will receive a comprehensive and synergistic, tailor-made program that includes all therapy options appropriate to his or her specific cancer, health condition, and disease progression. This synergy may include some combination of specific approved therapies, recommended experimental drugs, advanced diagnostics, hormone modulation, immune augmentation, and the proper nutrients—all shown in research to target the client's novel disease situation.

If there appears to be potential benefit from drugs not yet approved by the FDA—if and when indicated—ISCA handles all necessary paperwork so that the most appropriate and most potent treatment program for each individual can begin without delay.

This integrated approach may also include facilitating clients' enrollment in clinical trials specific to their situation—which not only moves experimental drugs forward, but also makes them immediately available to at least the test (non-control) subjects of a trial.

ISCA also designs and implements its own sponsored trials, in which clients might also participate, where appropriate.

Each cancer case, like each person's physiology, is different. So ISCA analyzes each case, accesses the latest research, recommends further tests if needed, devises the plan, cuts through the bureaucracy, moves the client's treatment plan along without the delay—and keeps him or her informed continually throughout the process.

ISCA currently focuses on delivering personalized programs of treatment primarily to prostate and breast cancer clients. However, as other health issues may arise, ISCA continues to provide guidance and services.

ISCA's Personalized Cancer Care

- Overwhelmed oncologists generally find their hands tied by the cancer treatment system in such a way that makes designing a completely individualized program for a specific cancer patient difficult—if not impossible.
- Every cancer patient's case is different and cannot be optimally processed by a “one-size-fits-all” approach to therapy.
- Fortunately, the International Strategic Cancer Alliance (ISCA) guides individuals who have been diagnosed with cancer through the treatment maze, ensuring optimal diagnostic and treatment options—which can range from genomic testing to petitioning for off-label drugs to nutritional support.
- Clients benefit from personalized testing and treatment programs—potentially including emerging and innovative therapies—without any distortion of what should only be a recovery-oriented, scientific decision-making process.



The critical importance of pursuing a protocol that is broader and more synergistic than the limited standard-issue therapies often churned out by the oncology bureaucracy cannot be overstressed. In addition, ISCA does not forget to focus on the Holy Grail of medicine—above all, do no harm. Therefore, a significant part of ISCA's focus is on maximizing therapeutic benefit to the patient while minimizing toxicity.

Cancer Therapies Must Be Personalized

Well-respected cancer journals regularly publish studies identifying safer, more effective treatment regimens for specific cancer types and progression levels. Yet cancer patients often end up suffering through treatments that do not effectively integrate these latest findings into their particular treatment plan. Why?

For decades, traditional medicine has made cancer treatment decisions based on the one-size-fits-all approach—in which everyone with a particular cancer receives the same treatment. Desperate patients are missing out on the possible synergy of pursuing several different treatments—specific to their cancer type—at different times in their treatment progress. There is an urgent need for a customized treatment plan for each and every cancer patient.

Fortunately, the International Strategic Cancer Alliance steers clients to new advances in technology, allowing them to finally move away from this outdated approach. This includes customizing therapy and uniting the client with oncology groups that will integrate a vast array of synergistic therapies into an individually tailored cancer treatment program.

Multimodal approaches are incorporated to provide the best scientific opportunity of eradicating the malignancy—as well as reducing cancer treatment side effects.

Integrated Therapy Management System

Initially, each potential client speaks free of charge with a patient advocate, who listens and takes notes on the specific case, and then helps determine whether ISCA can offer potential benefit. The advocate remains available to the client 24 hours a day, seven days a week, to help navigate the process, answer any questions, and keep the client continually informed.

Each client's advocate is a key player on the overall treatment management team who understands how stressful it can be to navigate the maze and confusion of treatment decisions in today's cancer bureaucracy. That's because they are all either cancer survivors or individuals who have been affected by the diagnosis of a loved one.



No false hope is given. If a client's cancer is considered potentially curable, then ISCA launches a heroic program that draws on every conceivable therapy documented in published scientific studies to be appropriate to each individual's particular medical situation.

ISCA will gather all relevant pathology reports in order to facilitate any specialized testing needed to expand possible treatment options and to recommend a pathologist with expertise in the client's cancer type, assuming that no pathology expert for the client's particular cancer type is already involved.

All pre-diagnostic and diagnostic test results and medical records are organized into a comprehensive and specially designed, electronic record format that can be readily understood by patients and physicians alike. The client's team will then recommend additional tests and potential therapy strategies after consultation with top experts in the patient's specific cancer type.

Every single document will be entered into the digital medical record and automatically charted so the treating oncologist can ascertain the overall condition and progress at a glance. It can be electronically transferred to cancer consultants around the world so they can review hundreds of characteristics of the individual patient's tumor and overall state of health. This can bring further recommendations for even more novel approaches that can be considered by the treating oncologist.

This easy-to-read electronic document is available to the client as well, via password-protected Internet access, allowing clients to track measurements of their success or failure during the entire course of treatment.

And throughout the treatment process, a high level of communication is maintained between the client and everyone involved in his or her care, including the ISCA-appointed physician(s).

Novel Testing Strategies

Hundreds of compounds have demonstrated anti-cancer activity in scientific studies published in peer-reviewed oncology journals. To take full advantage of this array of promising treatments, it is important that tumor cells be meticulously assayed—using cutting-edge diagnostic tests—in order to identify what compounds are most likely to produce anticancer effects in each particular case.

ISCA often utilizes the circulating tumor cell (CTC) assay. This involves taking a blood sample and having circulating tumor cells in the blood investigated by a molecular laboratory. This allows physicians to assess genetic characteristics of tumor cells, identifying both high- and low-risk patients.

Testing can also reveal potential drug resistance factors, important information for building an optimal therapy program. One might wonder why a molecular analysis of the primary tumor is not sufficient to perform this assay. The reason it often fails is that primary tumor cells that break off and circulate through the blood stream often develop survival characteristics quite different from the primary tumor from which they originated.

Cancer cells' powerful ability to migrate (metastasis) poses a common and lethal risk. For this reason, ISCA may recommend certain clients undergo unique **Combidex®** testing. This remarkable diagnostic breakthrough uses an injectable iron nanoparticle suspension that is given intravenously in conjunction with an MRI scan to identify and track metastatic lesions in order to support aggressive therapies at the earliest point of cancer spread. Clinical cancer studies have demonstrated the ability of Combidex® testing of lymph nodes to “see” malignant lesions as small as **2 to 3 millimeters!**

Other test results can influence critical decisions regarding the decision between early initiation of therapy or supportive treatment. They help build targeted, patient-specific therapy that takes individual drug resistance and potential new therapies and alternative agents into account.

Optimize Your Cancer Therapy

Knowing that you're being expertly guided to the most promising, all-inclusive cancer treatment program—personalized for your specific test results and drug resistance—can bring peace of mind on which you just can't put a price.

It is regrettable that so many cancer patients choose the “convenience” of a local community hospital, which may provide only limited conventional treatment options. They may be depriving themselves

of case-specific, nontoxic, synergistic, and newly emerging treatments.

Choosing to let ISCA design a highly customized and comprehensive recovery program can clearly make the difference between horrific and mild side effects—and even between life and death!

Summary

Increasingly overwhelmed oncologists often find their hands tied by the system in such a way that designing a completely individualized treatment for a specific cancer patient can prove difficult, if not impossible.

However, every cancer case is different and can't be effectively processed by a “one-size-fits-all” approach to therapy.

Fortunately, a novel organization, the International Strategic Cancer Alliance (ISCA), guides those who have been diagnosed with cancer through the treatment maze, ensuring that they are getting the best diagnostic and therapeutic options—ranging from genomic testing to petitioning for off-label drugs to nutritional support.

The result is personalized testing and treatment programs—including emerging and innovative therapies where advisable—without any distortion of what should only be a recovery-oriented, scientific decision-making process. To review an ongoing case history report of a difficult-to-treat ISCA client, please refer to the next article.

Those seeking more information on customized cancer care and exciting research programs can view ISCA's website at www.is-canceralliance.com or contact Örn Adalsteinsson, PhD, CEO, of International Strategic Cancer Alliance (ISCA) at 610-628-3419 or send email to: info@is-canceralliance.com. ●

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



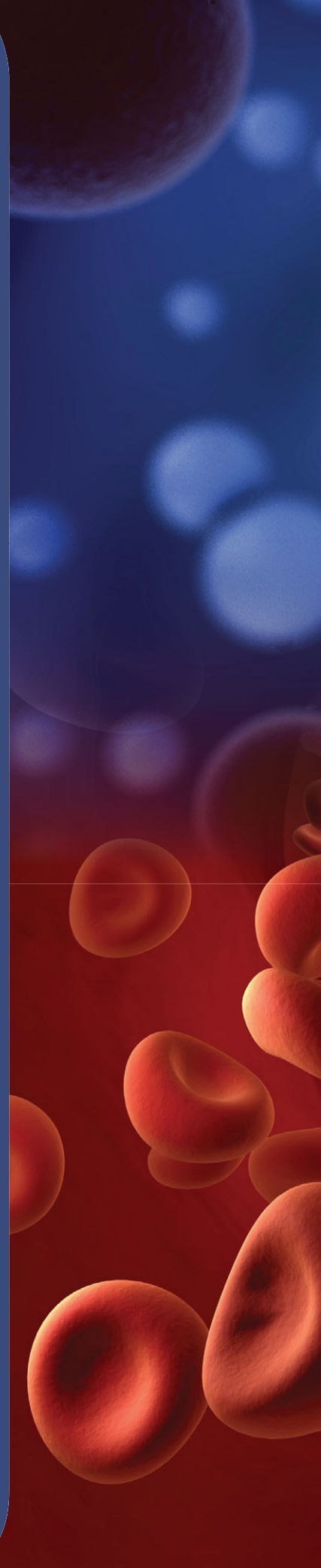
A Real-World Case History: Fighting Pancreatic Cancer With ISCA's *Personalized* Treatment Program

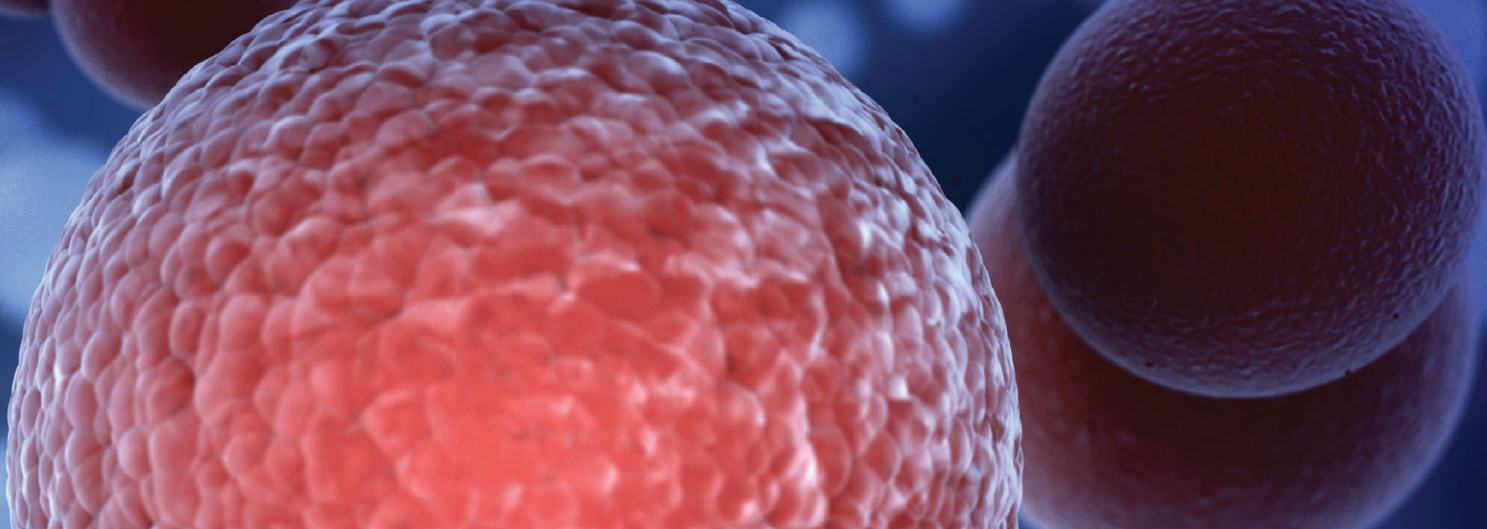
Pancreatic cancer will kill almost **40,000** Americans this year. Survival time is often measured in months. Five-year survival rates for patients with advanced disease are less than **4%**.

Incidence of pancreatic cancer has been increasing as the population ages. More effective treatments are desperately needed.

Desperate is exactly how **prostate cancer** patient Paul D. felt when he was diagnosed with **pancreatic cancer**. Having worked successfully with the **International Strategic Cancer Alliance** (ISCA) to explore treatment alternatives for his prostate cancer, he turned once again to the organization to see if they could offer anything against this latest dreaded and deadly disease.

We report here on this remarkable case history whereby Paul's pancreatic tumor markers were dramatically reduced and survival extended, without the patient having to endure the grueling agonies of conventional chemotherapy.





When Paul was diagnosed with **stage IV pancreatic cancer** at the age of 69, his family was devastated. He had successfully lived with prostate cancer for almost 15 years. But the prognosis for those diagnosed with pancreatic cancer is poor. When the disease is this far advanced, the patient's projected life span is often measured in months, with steadily deteriorating quality-of-life.

Conventional therapies offered little hope. Rather than simply accept what seemed inevitable, and with the support of his family doctor, Paul and his family reached out to the **International Strategic Cancer Alliance (ISCA)** to see if there were any viable options for treatment. ISCA agreed to accept his case.

"When Paul was first diagnosed, it felt like things were completely out of control. We were in a state of shock, and we were searching frantically for anything that might offer some hope," recalled Paul's wife Rae. "Even though we were familiar with the medical system, Paul's diagnosis plunged us into a state of chaos and disorganization. We felt completely overwhelmed by the lack of options available for treatment."

The First Steps

ISCA CEO Örn Adalsteinsson, PhD, arranged a conference call that included himself, Paul's family, and the oncologist, Dr. Stephen Strum, also an ISCA colleague, who had treated Paul for prostate cancer. "That call changed everything," said Paul. "Rather than guessing about the tumor or possible treatments, ISCA's staff took a step back to ensure we fully understood the diagnosis before we did anything. In that hour, we went from panic to a plan."

The plan was clear:

1. Have an expert review the CT and ultrasound images that were used for diagnosis.
2. Find a skilled surgeon to conduct a liver biopsy. This would allow a definitive diagnosis, staging, and chemo-sensitivity assays.
3. Identify pancreatic cancer centers of excellence around North America that could offer effective treatment options.
4. Start treatment.

"It would take weeks for Paul to see a specialist in our area, and we knew we just didn't have that much time. So we started searching online. But the amount of information available on the Internet is vast, and we're not medical experts," said Rae, "Without ISCA, we could never have accessed the qualified specialists Paul needed in the limited time we had. He was weakening daily and we needed help—fast." ISCA reached into its network of medical experts and quickly narrowed the field of specialists that could deliver the care Paul needed on the short timeline his deteriorating condition dictated.

Because he had worked with ISCA for his prostate cancer, much of Paul's medical history had already been accumulated. The advanced electronic medical record developed by ISCA personnel enables any medical professional to efficiently track every aspect of Paul's condition and quickly initiate a response when disease progression is detected.

As Paul underwent a biopsy and PET/CT scan, the ISCA team continued to seek an oncologist with expertise in—and novel approaches to—difficult-

to-treat cancers. The oncologist ISCA found in the US is a pioneer in the use of low-dose chemotherapy, also known as *metronomic dosing*, which proved extremely effective for Paul. After a two-hour consultation with the oncologist and a call to another patient who has been cancer-free seven years after being diagnosed with pancreatic cancer, Paul admitted: “The decision was obvious.”

Throughout Paul’s case, the ISCA team has monitored treatments and conducted regular reviews of the results. ISCA tracked all tests, including PET scans, and recommended novel, non-chemo compounds, such as Immune26® (i26®), which are efficacious in many cancer patients and act by minimizing treatment side effects. i26® is a functional food protein system that helps establish a balanced environment within the gut, thus promoting immunity. “When Paul was at his lowest points, the i26® was the only thing he could take,” remarked Rae.

The Challenges

Pancreatic cancer treatment has not had many improvements over the last 40 or 50 years. In most cases, by the time it’s diagnosed, it is at an advanced stage. Although there is a surgical option called the Whipple procedure, it is lengthy, complex, and best performed by a surgeon experienced with the technique. By the time most people are diagnosed with pancreatic cancer, their condition makes them poor candidates for surgery.

“One thing that many people don’t understand is that *you don’t have time*,” maintained Paul. “With life-threatening cancers, you need to act quickly. You can’t wait a month to see your doctor and then wait weeks or months to start treatment. *If you are diagnosed with a serious cancer, you need to do something right now*. Because of ISCA’s help navigating the medical system, less than a week after our first conference call, I was having a biopsy.”

To give you an idea of how poor Paul’s prognosis was, on the day he was diagnosed in October 2012, his pancreatic tumor marker (CA19-9) was over **45,000**. By November 28, the day he started chemotherapy, it was **218,000**. Normal range is less than **34**. As of writing this article, that tumor marker is about **197**.

Table 1: List Of 20 Treatment Modifications

| | | |
|-------|------------------------------------|---------------|
| Rx30: | Tetrathiomolybdate stopped | Oct. 12, 2012 |
| Rx31: | Biliary Stent | Oct. 19, 2012 |
| Rx32: | Port-A-Cath | Nov. 15, 2012 |
| Rx33: | Taxol®-Gemzar® (TG) started | Nov. 28, 2012 |
| Rx34: | IFN alfa-2b started | Dec. 6, 2012 |
| Rx35: | 5-FU + Leucovorin started | Dec. 10, 2012 |
| Rx36: | Leukine® | Dec. 11, 2012 |
| Rx37: | 5-FU + Leucovorin stopped | Jan. 25, 2013 |
| Rx38: | Taxol®-Gemzar® (TG) last treatment | Apr. 10, 2013 |
| Rx39: | NOLF* started | May 8, 2013 |
| Rx40: | Tarceva® 100mg/d | Jul. 12, 2013 |
| Rx41: | NOLF* - completed | Aug. 17, 2013 |
| Rx42: | Tarceva® 100 mg/d D/C | Sep. 17, 2013 |
| Rx43: | PID** started | Sep. 18, 2013 |
| Rx44: | Tarceva® 100 mg/d | Dec. 6, 2013 |
| Rx45: | Tarceva® 150 mg/d | Dec. 11, 2013 |
| Rx46: | Last PID** | Jan. 8, 2014 |
| Rx47: | PIC*** started | Feb. 13, 2014 |
| Rx48: | PIC*** Last treatment. | Jun. 10, 2014 |
| Rx49: | Restart Tarceva® 150 mg/d | Jun. 17, 2014 |

*NOLF - Navelbine®, Oxaliplatin, Leucovorin 5-FU

** PID - Paclitaxel, Ifosfamide, Doxil®

***PIC - Paclitaxel, Irinotecan, Cisplatin

The oncologist ISCA recommended uses a series of low-dose chemo infusions along with heavy-duty nutritional support. Treatment has been ongoing, and side effects have been manageable. Overall Paul’s quality of life has been good. In August 2013, a FDG-PET/CT found the tumor was greatly reduced and that metastases to Paul’s liver had calcified and were inactive. A subsequent FDG-PET/CT in June 2014 showed continued response to treatment.

These impressive results were achieved with a synergistic program of both conventional and advanced therapies. They can be seen in the Tumor Marker graph on page 78 titled **CA19-9 Vs Months From Diagnosis**, which shows the decline of the tumor marker. Three other patients receiving treatment for pancreatic cancer at the same clinic are also experiencing similar results.

During this time, 20 different treatment modifications were made where the type of chemotherapy, dosage, and timing were adjusted based on tumor response to the treatment and ISCA’s **Electronic Medical Data Log** feedback. These events are highlighted in Table 1 (above) with a date stamp for each event. (They are also shown as triangle tick marks in the bottom part of the Tumor Marker graph on page 78.)

With ISCA, the focus is on the needs of the patient, not the boundaries of the medical system, which can

be confusing and hard to navigate. According to Rae, “ISCA’s concern is serving the individual. Whatever Paul’s need was—finding an oncologist, sourcing an FDG-PET/CT, getting a second opinion, or cardiology—ISCA always connected us with competent medical professionals who met Paul’s needs. Not only did the ISCA team find good treatment options for Paul, they helped us understand what we needed to know to make sound decisions about his care.”

Paul’s Condition Today

Paul was diagnosed with stage IV pancreatic cancer in **October 2012**. His prognosis with conventional therapy was about **six months**. His oncologist believes that without treatment, he would likely have been dead by Christmas of that year. Using ISCA’s resources and expertise, Paul’s condition turned out quite different.

Twenty-two months after he was diagnosed, Paul continues to receive chemotherapy, but is very much alive and doing well as of **August 2014**.

“Paul’s ECOG Score (refer to top of next column for description of the ECOG Score) is **1**, which I think reflects the improved physical changes from the early months of pancreatic cancer before and after diagnosis, as well as the positive effects of chemotherapy,” observed Rae. “For the past 10 days he has been down on the floor for five minutes daily doing one or two pushups. Depending on the day, he walks anywhere from six to 14 blocks. His appetite is good and his weight remains stable at what it was when he was in his 20s. We make a point of going for coffee daily and we visit regularly with friends. This is in contrast to his health in late 2012 and early 2013, when he needed

The ECOG Score

The Eastern Cooperative Oncology Group (ECOG) score, published by Oken, *et al.* in 1982, runs from 0 to 5, with 0 denoting perfect health and 5 death. Here are what the numbers mean:

- 0 – Asymptomatic. (Fully active, able to carry on all predisease activities without restriction.)
- 1 – Symptomatic but completely ambulatory. (Restricted in physically strenuous activity but ambulatory and able to carry out work of a light or sedentary nature, such as light housework or office work.)
- 2 – Symptomatic, **<50%** in bed during the day. (Ambulatory and capable of all self-care but unable to carry out any work activities. Up and about more than **50%** of waking hours.)
- 3 – Symptomatic, **>50%** in bed, but not bedbound. (Capable of only limited self-care, confined to bed or chair **50%** or more of waking hours.)
- 4 – Bedbound. (Completely disabled. Cannot carry on any self-care. Totally confined to bed or chair.)
- 5 – Death.

elevated seating to be able to stand, ate less than a half cup of food at mealtimes, struggled to manage his personal care, and needed assistance for everything else.” Paul is not cured, but is living with his cancer.

Table 2 at left shows some of the chemo treatments that were administered, all in low doses and most with immune support. Paul and his oncologist monitor his overall health, as well as the tumor markers.*

Table 2: Treatments Over 21 Months

The chronology over the 21-month period shows how treatment modifications were able to achieve tumor marker reduction. These treatments included:

- Taxol®-Gemzar®, with Interferon alfa-2b (IFN alfa-2b)
- 5-FU with Leukine® (recombinant granulocyte-macrophage colony-stimulating factor, GM-CSF)
- Paclitaxel, Oxaliplatin, Leucovorin, 5-FU
- Tarceva®

***Editor’s Note:** *We at Life Extension® understand the time urgency when combatting pancreatic cancer, which kills some victims only weeks after diagnosis. We reiterate our long-standing position that a comprehensive, individualized treatment plan must first be in place. Typical terminal pancreatic cancer patients are offered chemotherapy drugs that add several months of survival. The problem is that once treatment-naïve cancer cells become refractory to standard chemo protocols, they are usually resistant to further interventions. Had it not been for the relationship that Paul already had with ISCA, he likely would have been administered conventional chemotherapy, which would likely have deprived ISCA of the opportunity to successfully utilize more progressive approaches.*

Adjuvant Treatments

Paul's treatments were also supported at different stages in his program with advice on diet, adjuvants, and natural supplements. The regimen of i26® maintained daily throughout the period played a key role in mitigating treatment side effects. Along with i26®, additional support included supplements such as:

- Dichloroacetate (DCA)
- Super Bio-Curcumin®
- Green Tea Leaf Extract
- Melatonin
- Milk Thistle
- Fish Oil
- Acetyl-L-Carnitine (ALC)
- Benfotiamine
- Boswellia
- BroccoMax®
- CoQ10
- Vitamins and Minerals
- *Cissus quadrangularis*



Summary

"We had to make a decision after I was diagnosed and it was going to be a life-changing decision, but it would have been life-changing either way!" said Paul.

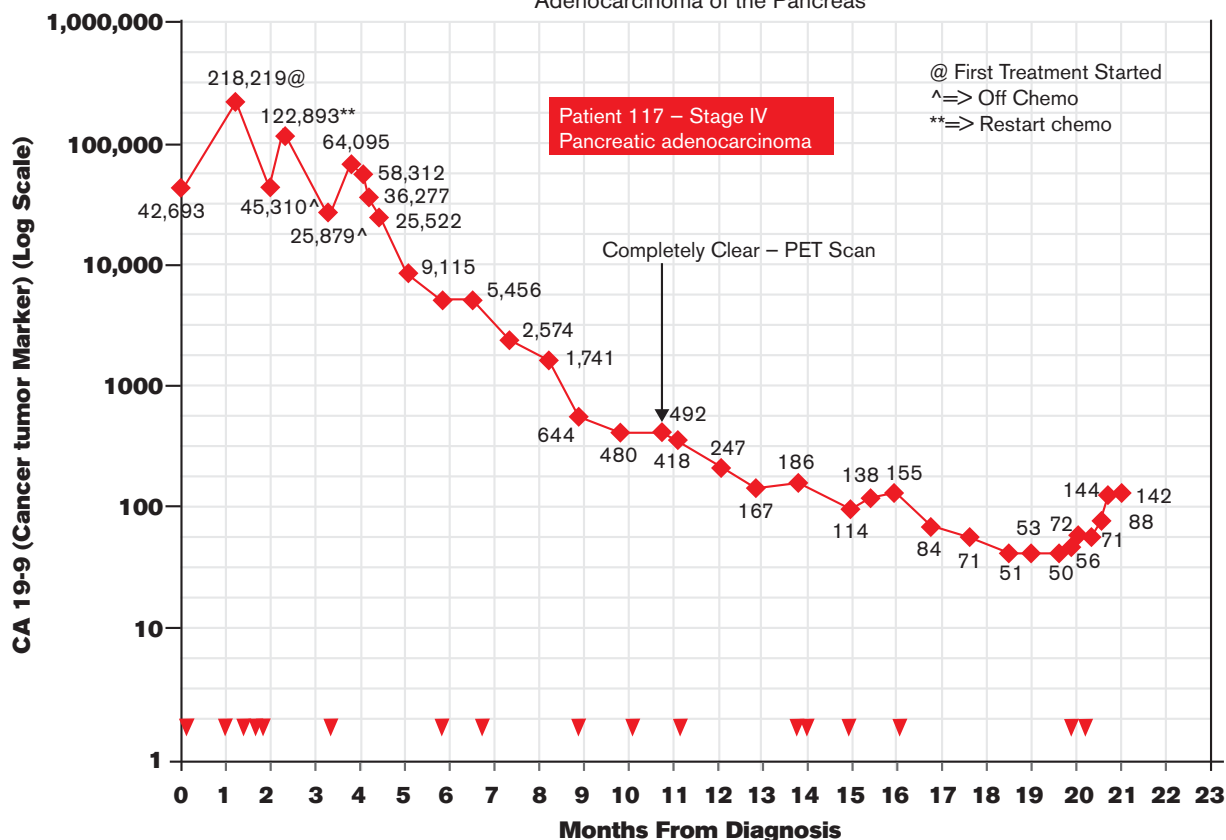
ISCA CEO Örn Adalsteinsson noted, "In late-stage cancer cases like Paul's, multiple resources have to be pulled together quickly to find the optimum treatment plan. But this is just the start of the journey. Many additions and modifications have to be made along the way as dictated by the feedback from the medical data and most important, the patient."

Paul recalled, "There were some days when I thought it was going to be game over. I threw the ISCA team a few curveballs, but they never gave up."

Paul will likely remain an ISCA client for the rest of his life, or until there is clear evidence of a cure. The ISCA team has empowered Paul to fight one of the deadliest cancers, giving him back quality-of-life years. ●

Paul's Pancreatic Tumor Marker CA19-9 Over A Period of 21 Months

Adenocarcinoma of the Pancreas



ULTIMATE PROSTATE PROTECTION

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

Ultra Natural Prostate formula provides the latest scientifically validated, standardized botanical extracts shown to promote healthy prostate function. No other prostate protection formula provides such a broad array of nutrients to support the multiple factors involved in promoting the aging prostate gland. Here are the ingredients in the **Ultra Natural Prostate** formula:

- **Standardized lignans** convert to *enterolactone* in the intestine, which is then absorbed into the bloodstream to provide support for prostate cells against excess estrogen levels.¹⁻³
- **AprèsFlex®** supports normal inhibition of *5-lipoxygenase* or *5-LOX*, an enzyme that is associated with undesirable cell division changes.^{4,5}
- **Stinging and Dwarf nettle root extracts** help support prostate cells against excess estrogen levels.^{6,7}
- **Saw Palmetto CO2 extract** helps inhibit *dihydrotestosterone* (DHT) activity in the prostate, helps support normal urinary flow, and helps regulate inflammatory reactions in the prostate.⁸⁻¹¹
- **Pygeum** (*Pygeum africanum*) extract helps suppress prostaglandin production in the prostate and supports healthy urination patterns.^{12,13}
- **Pumpkin seed oil**, from select pumpkins, enhances the composition of free fatty acids and augments saw palmetto's benefits.¹⁴⁻¹⁶
- **Beta-sitosterol** enhances the protective effects of other botanical extracts and helps improve quality of life.¹⁷⁻¹⁹
- **Graminex® Flower Pollen Extract™**, has been shown to help relax the smooth muscles of the urethra and help regulate inflammatory reactions.²⁰⁻²²
- **Boron** has been shown to slow elevation of prostate-specific antigen (PSA).²³⁻²⁵
- **Lycopene** supports efficient cellular communication, helps maintain healthy DNA, regulates hormonal metabolism, and promotes healthy prostate size and structure.²⁶⁻³²



Item # 01898

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

| | |
|---|-----------------|
| Saw Palmetto CO2 extract (fruit) [providing 272 mg total fatty acids] | 320 mg |
| Graminex® Flower Pollen Extract™ (from rye) | 252 mg |
| Stinging and Dwarf nettle extracts (root) | 240 mg |
| Beta-Sitosterol (from pine) | 180 mg |
| Phospholipids | 160 mg |
| Pygeum extract (bark) | 100 mg |
| Pumpkin seed oil [providing 170 mg total fatty acids] | 200 mg |
| AprèsFlex® Indian frankincense (<i>Boswellia serrata</i>) extract (gum resin) [providing 14 mg AKBA ¹] | 70 mg |
| Proprietary Enterolactone Precursors Blend [HMRlignan™ Norway spruce (<i>Picea abies</i>) (knot wood) and Flax (seed) lignan extracts] | 20.15 mg |
| Lycopene [from natural tomato extract (fruit)] | 10 mg |
| Boron (as Albion® bororganic glycine) | 3 mg |

¹ 3-O-acetyl-11-keto-β-boswellic acid

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

Contains soybeans.

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To order Ultra Natural Prostate, call 1-800-544-4440 or visit www.LifeExtension.com

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



Using **i26® HYPERIMMUNE EGG** Powder To Help Restore Immune Balance

There are times when **immune system** protection becomes vital to **survival**. Especially during periods of medically-induced stress, taking steps to maintain healthy immunity within normal ranges makes good sense.

Derived from the eggs of hyper-immunized hens, **i26® Hyperimmune Egg** powder may renew a more youthful immune balance in multiple ways. For more than 20 years, the all-natural **i26® Hyperimmune Egg** powder has been clinically shown to support the immune system and help with gastrointestinal insults and digestive issues.

A canister containing **140 grams** of **i26® Hyperimmune Egg** powder retails for \$54.99. **Life Extension®** members pay **\$46.75** per canister. Each canister provides 31 servings. The high cost of this product causes most people to use it when maximum immune support is most needed.



This product may not need to be taken every day. Some people keep it on hand for those occasions when a need to support immune health arises.

i26® is a registered trademark of Legacy for Life LLC.

Caution: Persons with severe egg allergies should consult a health professional before using this product. Diabetics should also consult a physician and monitor blood levels closely.

To order i26® Hyperimmune Egg powder, call 1-800-544-4440 or visit www.LifeExtension.com

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

MEGA BENFOTIAMINE

PROTECT AGAINST SYSTEMIC GLYCATION

Scientists have known that when blood sugar combines with fats and proteins the result is known as *glycation*, and it produces *accelerated aging*.¹ Even those with blood sugar levels within normal range experience the impact of systemic *glycation* on a daily basis.²

Fortunately, researchers in Japan developed **benfotiamine**, a unique form of vitamin B1 (thiamine) that supports healthy blood sugar metabolism and protects against *glycation*.³⁻⁵ What makes **benfotiamine** especially effective is that unlike ordinary vitamin B1, it is fat-soluble and can easily penetrate the inside of cells.⁶ Regular vitamin B1 is water soluble and has a short life span in the body.⁷

Mega Benfotiamine helps inhibit the formation of *advanced glycation end products* (AGEs) to maintain healthy endothelial, retinal, kidney, and nerve cell function.⁸⁻¹²

Each capsule provides **250 mg** of **benfotiamine** and **10 mg** of vitamin B1 (as thiamine HCl).

The suggested daily dose is one to four capsules, taken with or without food. A bottle containing 120 vegetarian capsules of **250 mg Mega Benfotiamine** retails for \$30. If a member buys four bottles, the price is reduced to **\$20.25** per bottle.

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Item #00925



**To order Mega Benfotiamine,
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or visit www.LifeExtension.com**

The Mitochondrial Energy Optimizer formula provides **150 mg** of benfotiamine, which when combined with other anti-glycation agents like carnosine and pyridoxal-5-phosphate provides substantial protection at different checkpoint opportunities in the glycation process.

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BY STEVEN DE BERG

A Lifesaving Nutrient In **CITRUS FRUIT**

MODIFIED CITRUS PECTIN

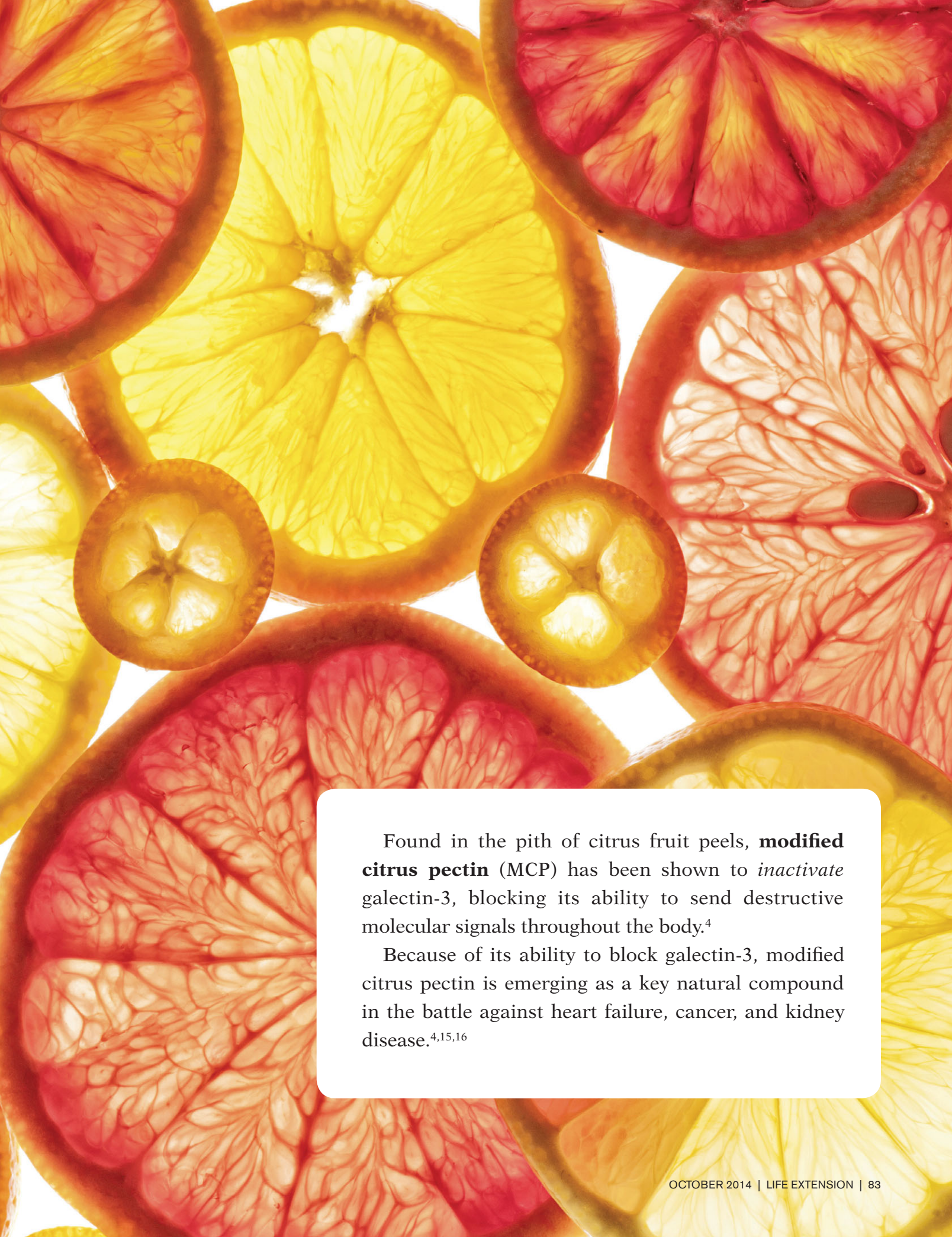
There are molecules in our bodies that are beneficial in youth, but turn against us as we age.

One of these compounds is **galectin-3**. Excess levels are associated with heart failure, kidney disease, and cancer.¹⁻⁴

Doctors have long recognized galectin-3 as a biomarker for degenerative disease.⁵⁻¹⁰ New research is revealing that **galectin-3** is far more than an indicator of disease—it is purported to have a causative role in these conditions.¹¹⁻¹⁴

Drug companies have had little success in their attempts to fight the destructive actions of galectin-3. Fortunately, scientists have discovered a citrus extract that has potent ***galectin-3 inhibitory*** properties.





Found in the pith of citrus fruit peels, **modified citrus pectin** (MCP) has been shown to *inactivate* galectin-3, blocking its ability to send destructive molecular signals throughout the body.⁴

Because of its ability to block galectin-3, modified citrus pectin is emerging as a key natural compound in the battle against heart failure, cancer, and kidney disease.^{4,15,16}

Keeping Galectin-3 In Balance

Galectin-3, like many biologically active molecules, has a distinct and important role in maintaining good health, but galectin-3 becomes a problem when it occurs in excessive amounts. In normal health, for example, galectin-3 provides an important defense against bacteria following acute tissue damage by helping induce local inflammation and an immune response that destroys the invading organisms.¹⁷ And with chronic or repetitive tissue injury, galectin-3 participates in the transition to chronic inflammation, helping to “wall off” the injured or infected area.¹⁷

The problem with this action is that it produces tissue scarring that in the long run impairs the function of the very organ or tissue it was trying to protect.¹⁷ In addition, galectin-3 is involved in an important process called “tissue remodeling,” in which cells in various tissues become altered in response to damaging stimuli. Remodeling is an important part of heart failure and stroke,¹⁸⁻²¹ and although we might not typically think of it this way, cancer can be viewed as an aggressive and malignant form of remodeling.²²

These multiple actions mean that galectin-3 has a wide variety of biological functions and plays a key role in physiological and pathological processes involved in cancer, cardiovascular disease, and the pro-aging process of fibrosis.^{17,23-25} All of these disorders share a common factor of increased inflammation and altered immune function, so galectin-3 may be considered a pro-inflammatory, immune-altering molecule.^{26,27} In addition, levels of galectin-3 rise significantly with advancing age, making it a prime target for anti-aging therapies.^{25,28}



The Role of Galectin-3 In Cancer Development

For many cancers, rates rise dramatically with advancing age.^{29,30} There is now plenty of evidence that some of the hallmarks of developing cancers, such as inflammation, immune function alterations, and local and metastatic spread, are related to galectin-3 actions.

Because increased concentrations of circulating galectin-3 are so prevalent in growing cancers, it has been suggested as a biomarker for specific cancers, such as prostate, ovarian, and breast cancer.³¹⁻³⁴ But increasing evidence suggests that galectin-3 does more than signal the presence of cancer—it *actively participates* in cancer growth by promoting cancer cell adhesion to blood vessel linings, a major step in the progression and spread of cancer.^{1,2}

In addition, the excess galectin-3 produced by cancer cells helps the malignant cells communicate, stick together, rapidly multiply, grow necessary new blood vessels, and evade the normal programmed cell death called apoptosis.^{18,26,35,36}

Recently, it has been demonstrated that galectin-3 enables cell migration and invasion of melanoma-induced metastasis to the lungs by inducing secretion of *matrix metalloproteinases* (MMP-1 and MMP-9) required to breach vascular basement membranes to the lungs.^{37,38} It was shown that galectin-3 is expressed on all the major compartments of the lungs and participates in not just promoting adhesion but also in spreading the cancer to lungs. Additional laboratory studies suggest that overexpression of galectin-3 in lung tissue increases cancer cell adhesion, motility, and organ colonization.^{39,40}

Galectin-3's Role In Heart Failure

Studies show that galectin-3 plays a major role in heart failure.

Galectin-3 is a biomarker for fibrosis and inflammation in heart failure.³ People hospitalized for heart failure with galectin-3 levels exceeding **17.8 ng/mL** have **2.8 times** the odds of being re-admitted at 30 days, and more than **three times** the odds of being readmitted by 90 days, compared with those having galectin-3 levels below this value.⁴¹

In one study, patients whose galectin-3 levels doubled over 18 months were nearly **two times** as likely to be hospitalized for heart failure and die of any of a number of causes.⁴² That study also showed a close association between galectin-3 levels and inflammatory markers such as interleukin-6 (IL-6) and C-reactive protein (CRP). Other studies have demonstrated a close correlation between galectin-3 levels and blood

pressure, serum lipids, body mass index, kidney function, and other biological markers of disease.^{3,18}

However, as is the case with cancer, galectin-3 is now recognized as being more than simply a biomarker of impending heart failure—it's now believed to play a major causative role in the development of heart disease.

Failing heart tissue has been found to produce increased quantities of galectin-3 *before* clinically evident heart failure.^{25,27} In advanced cases of heart failure, galectin-3 levels have been correlated with many of the physical changes that occur as the heart progressively becomes less able to pump blood, such as thickening of the heart wall.²⁷

Animal studies show that increased expression of galectin-3 produces heart muscle dysfunction, with a massive overproduction of the tough, unyielding form of connective tissue called **type I collagen** that impairs heart muscle elasticity.^{15,43} This loss of elasticity and the decreased pumping action that follows are hallmarks of heart failure.

Similarly, animal studies have shown that galectin-3 is found in increased amounts in brain tissue following an ischemic (lack of blood flow) stroke, playing a role in post-stroke tissue remodeling and abnormal new blood vessel formation.¹⁸

Indeed, galectin-3 is now known to play a causative role in the remodeling of heart and blood vessel tissue that occurs during heart failure.^{18,44} This remodeling is linked closely to disease progression and poor prognosis in heart failure. Galectin-3 stimulates the migration of inflammatory cells, proliferation of fibroblasts (the tough, scar-like cells that replace normal contractile heart muscle), and ultimately the development of fibrosis, the stiffening process that impairs heart muscle function.⁴⁵

Nature's Answer To High Galectin-3 Levels

As the connection between galectin-3 and these major diseases becomes better known, Big Pharma has been hotly pursuing drugs that combat disease by blocking galectin-3. So far it has come up short, but as usual, nature already has a solution. Found in the pith of citrus fruit peels, a compound called **modified citrus pectin** (MCP) has been shown to *inactivate* galectin-3.

Most people have heard of pectin as a gelling agent used in fruit preserves and jellies. In fact, many of the chemical properties that make pectin appealing in cooking are similar to those that attract the attention of scientists. **Modified citrus pectin** is a form of pectin that is especially rich in sugar molecules known as *galactosides*.^{16,46}



What You Need To Know

Modified Citrus Pectin

- A common feature of cancer, heart failure, and kidney disease is the pathological replication and reorganization of healthy cells, manifested as changes in tissue structure.
- This harmful “remodeling” of tissue has recently been found to be under the control of a unique molecule called galectin-3.
- Higher galectin-3 levels have now been associated with increased risk and severity of cancer, greater severity and more rapid progression of heart failure, and with both acute and chronic kidney disease.
- Modified citrus pectin (MCP) binds to and inactivates galectin-3, preventing it from delivering its destructive signals to cells and tissues.
- Studies now demonstrate the effectiveness of MCP in laboratory and preclinical settings, where it counteracts galectin-3 actions, slows tissue remodeling, and reduces consequences such as cancer development and metastasis, heart failure, and kidney disease.
- Big Pharma is hot on the trail of drugs that block galectin-3, but MCP is available now in convenient dosing forms, with no recognized side effects.

Galectin-3 molecules specifically interact with the galactosides found in MCP (modified citrus pectin).⁴ This means that, in the presence of this special type of pectin, galectin-3 molecules will bind to the galactoside bonds on the MCP molecules, rather than on those signaling carbohydrate molecules on cell surfaces.⁴⁷

In this way, pectin acts as a “competitive inhibitor,” binding up and inactivating galectin-3, and preventing it from performing the actions that can damage your health. (See Figure below).^{4,13,16}

Laboratory and clinical evidence has demonstrated that modified citrus pectin’s ability to inhibit galectin-3 helps prevent the formation and spread of cancer, helps mitigate cardiovascular disease, and generally contributes to fighting the pro-aging effects of fibrosis in your body.

Modified Citrus Pectin Diminishes Cancer Risk

Leading cancer researchers have described MCP as “one bullet, multiple targets” because of its multiple, complementary actions in fighting cancer.⁴⁸

Modified citrus pectin helps prevent the spread of cancer.

Modified citrus pectin has demonstrated tremendous anticancer potential, particularly in fighting deadly metastatic spread. This is important because once a cancer metastasizes (spreads to a distant part of the body), it becomes vastly more dangerous and difficult to treat.¹⁶

Early preclinical studies showed that injecting mice with MCP could significantly decrease the likelihood of melanoma (a deadly skin cancer) spreading to the lungs.^{46,48,49} The mechanism was later shown to be related to the binding of MCP to galectin-3, which inhibited malignant cells’ ability to grow and stick to normal tissue and blood vessels; this “stickiness” is now recognized as an essential part of the formation of metastases.⁵⁰ Recent research has shown that metastasis of melanoma to the lungs could be hindered by feeding mice MCP in their drinking water, inhibiting galectin-3 found on the lung tissue. The authors concluded that MCP competes with the carbohydrate found on melanoma cells (*polyLacNAc*) for binding to galectin-3 on the lungs, thereby impacting metastasis.³⁸

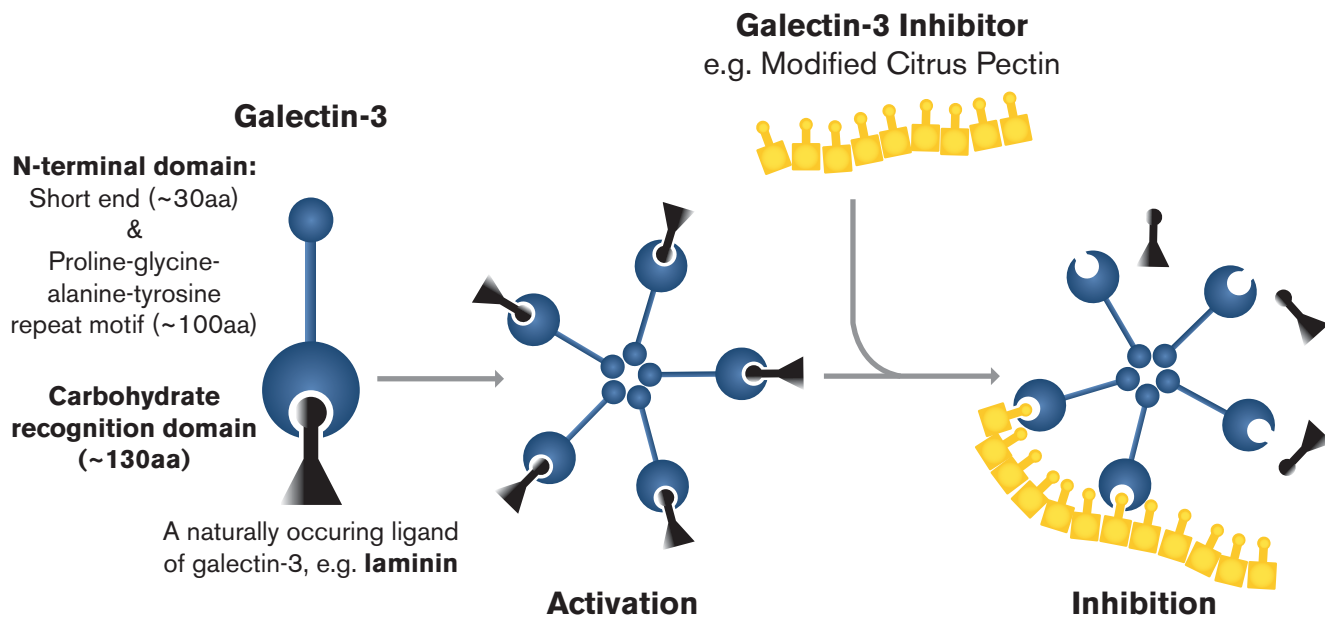


Figure: Modified Citrus Pectin Binds And Inactivates Galectin-3

Galectin-3 molecules bind naturally to specific carbohydrate molecular patterns (*left*). Activated galectin-3 (*center*) is a trigger for inflammatory, structural, and biochemical changes that precede cancer, cardiovascular disease, and age-inducing fibrosis. Modified citrus pectin (*right*) binds to and inactivates galectin-3, blocking its ability to send destructive molecular signals.¹³

What Is Galectin-3?

Galectin-3 is a member of a family of biological compounds responsible for recognizing and responding to specific patterns found on carbohydrate molecules.^{23,24,71} Many vital cells in the body come ready “labeled” with those specific carbohydrate patterns, so galectin-3 functions as a means for cells to recognize and interact with one another and with the “matrix” material that supports cells in their correct positions.^{24,35} Galectin-3 has a particular molecular region that has an affinity for the sugar galactose and its bonds to adjacent molecules, which are called galactoside bonds.²⁶

Galectin-3 levels vary by cell type and function; the molecule is secreted from cells in a unique and not well-understood fashion.^{23,26} Galectin-3 functions as an autocrine/paracrine hormone when present outside the cells.⁷² One important feature of galectin-3 is its ability to form small clusters of galectin-3 molecules bound together in pentamers. This allows the molecule to participate in multiple cellular and extracellular processes involving tissue growth, structure, and immune modulation.^{17,72,73}

Similar antimetastatic actions were also shown for orally administered MCP in animal models of both prostate cancer (which becomes very difficult to treat after it metastasizes) and breast cancer.⁵⁰⁻⁵⁴

Further preclinical studies showed that by binding to galectin-3, MCP prevented colon cancer from spreading to the liver.⁵⁵ The same model showed that MCP reduces colon cancer size by up to **70%** compared with controls.⁵⁶

Modified citrus pectin activates cancer-killing cells.

Studies on human blood samples reveal that MCP also activates cancer-killing immune system cells (natural killer, or NK, cells), boosting their ability to patrol for and eliminate cancers as soon as they form; this is a boost to one of the body’s most important anticancer mechanisms.⁵⁷

Modified citrus pectin induces apoptosis.

In addition to helping to prevent metastases, research on prostate cancer cells shows that MCP works earlier in the production of cancer by restoring malignant cells’ ability to die off normally through programmed cell death (*apoptosis*).⁵⁸ Importantly,

these anticancer actions are effective for both hormone-dependent and hormone-independent cancers; the latter are notoriously challenging to treat.^{58,59}

In humans with prostate cancer, MCP has been shown to prolong the time it takes for doubling of prostate-specific antigen (PSA) levels; the more slowly PSA doubles, the more slowly the tumor is growing.⁶⁰

Modified citrus pectin helps boost the effectiveness of cancer treatments.

In laboratory studies of human multiple myeloma (a cancer that affects certain types of white blood cells) and angiosarcoma (a deadly cancer of blood vessels), MCP helps make malignant cells more responsive to chemotherapy while increasing cell death by apoptosis.⁶¹⁻⁶³

Similar chemo-sensitizing actions of MCP have now been shown for other cancers as well, including prostate and ovarian cancers.^{33,64,65} In a laboratory study, MCP was also recently shown to synergize with two natural biological mixtures to fight breast and prostate cancer metastases.⁶⁶

How MCP Battles Galectin-3 In Heart Disease

Heart failure remains one of the most challenging problems in clinical medicine today.

It is now known that **30 to 50%** of patients with increased galectin-3 levels have progressive or remodeling form of heart failure.¹³

Once thought to be simply a marker of severe, progressive heart failure, galectin-3 is now thought to play a major role in triggering the remodeling and poor function seen in the failing heart.^{12,13,27,67-69}

The good news is that binding or inhibiting galectin-3 can *prevent* and may even *reverse* heart failure, even heart failure with extensive fibrosis.⁶⁷

Laboratory studies show that MCP directly counteracts galectin-3-induced changes in heart muscle structure and function.

In one study, galectin-3 was shown to increase production of **type I collagen**, a major component in arterial stiffness and heart failure; however, inhibiting galectin-3 with modified citrus pectin blocked synthesis of type I collagen.¹⁵ In this study, when hypertensive rats were treated with the hormone *aldosterone* (which increases blood pressure and worsens heart failure), the control animals demonstrated thickening of blood vessel walls, inflammation, fibrosis, and increased expression of galectin-3; however, treatment with modified citrus pectin *reversed* all of these effects.¹⁵



One of the underlying risk factors for developing heart attacks, stroke, and heart failure is atherosclerosis, the “hardening” or thickening of the arteries.⁷⁰ Atherosclerotic plaques, the bulging masses of cholesterol and inflammatory cells that threaten to block arteries, are laden with high levels of galectin-3.⁷⁰ When mice that developed atherosclerosis as a result of a high-cholesterol “Western” diet were given oral doses of modified citrus pectin, the volume of their plaques was diminished, the result of galectin-3 inhibition.⁷⁰

Recent studies have highlighted the importance of measuring galectin-3 levels in people at high risk for cardiovascular disease, particularly heart failure and cardiovascular fibrosis.^{13,18,42,45} As the evidence grows that galectin-3 is an active participant, not an innocent bystander or simple disease marker, the importance of inhibiting its damaging effects on the heart will be amplified. Modified citrus pectin may offer a simple, natural, safe route to minimizing the impact of galectin-3 on your heart.

MCP Fights Kidney Disease And Fibrosis

Kidney disease and acute kidney injuries involve increased levels and activity of galectin-3. In an animal model of acute kidney injury, the damaged kidneys increased in size, and galectin-3 expression was widespread in several types of tubules inside the kidney.⁴

Research in mice show that when modified citrus pectin is administered *before* kidney damage is induced experimentally, it significantly reduces kidney enlargement and cuts down on kidney cell proliferation, an early step in fibrosis.⁴ Once the damaging stimulus was removed, MCP-treated mice showed decreased fibrosis, fewer inflammatory cells and cytokines in kidney tissue, and increased programmed cell death (apoptosis)—all in association with reduced levels of galectin-3.⁴

This study demonstrates how modified citrus pectin not only opposes the immediate damaging effects of galectin-3, but also reduces its levels, making for a vastly healthier kidney environment.

Summary

Galectin-3 is a signaling molecule that is involved in tissue growth and repair. This is beneficial in youth, but galectin-3 levels rise with age, and by midlife, galectin-3 may represent more of a threat than an asset. Higher galectin-3 levels serve as markers for elevated cancer risk, cardiovascular disease risk and severity, and kidney disease.

Galectin-3, however, is not simply a marker of disease. Scientists have now shown that galectin-3 is an active player, *triggering* the harmful changes that characterize each of these conditions. Studies show that inhibiting galectin-3 can markedly reduce, and in some cases reverse, dangerous tissue changes induced by the molecule.

Modified citrus pectin (MCP) is a natural product that inhibits galectin-3, shutting down its ability to communicate with target cells. In the presence of MCP, cancer cells lose their heightened survival and reproductive abilities, as well as their capacity to spread (metastasis); heart tissue undergoes less of the dangerous remodeling that is typical of heart failure following a heart attack or sustained stresses from high blood pressure; and kidney cells become resistant to formation of fibrosis that impairs kidney function.

The future likely holds much more promise for modified citrus pectin as we gain knowledge about galectin-3 and its ubiquitous role in disease. For now, it makes sense for certain individuals to add this supplement to control aberrant galectin-3.

A typical high-dose is to take **five grams** of **MCP powder** three times a day for several months, and then reduce to five grams once a day. Some people will only take MCP during specific time periods, and then discontinue.

MCP should be taken away from meals, i.e. on an empty or almost empty stomach.

MCP is not yet recommended as a daily supplement for everyone to take. Certain individuals will take the full **15 gram/day** dose for around one year, while others may try a moderate dose course (**5 grams/day**) for a period of 2-4 months. ●

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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COMPREHENSIVE WEIGHT MANAGEMENT PROGRAM STUDY

The Life Extension Foundation® is sponsoring a study to assess the effectiveness of a comprehensive weight management program that includes nutritional supplements, medications, a meal replacement shake, cognitive behavioral sessions, and hormone balancing.

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- Is able to travel to the Broward County research facilities for the scheduled visits over a 120-day period,
- Is overweight, between 35 and 60 years of age, and able to follow recommendations for diet and physical activity for the duration of the study, then
- Please contact us for further information and to see if you qualify.

Qualified participants receive:

- Laboratory testing (male and female blood panels, including hormones), study products, physical exams, and behavioral counseling at no cost to you during the trial.
- Compensation up to \$190 for time and travel.

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COOL DOWN AGING



Recently, scientists have identified one of the main culprits responsible for premature aging: rogue protein galectin-3. When galectin-3 is elevated due to aberrant cell growth, tissue injury, aging, or other factors, it stimulates an imbalanced inflammation response and triggers a cascade of consequences for cellular and cardiovascular function, joint and skin health, and more.^{1-3*}

But there *is* an answer. Derived from the pith of citrus fruits and modified to meet patented molecular specifications, PectaSol-C® Modified Citrus Pectin is the most researched natural galectin-3 inhibitor.¹ The molecular features of PectaSol-C® allow it to enter the circulation with optimal bioactivity, so that it can bind to excess galectin-3 and block its pro-aging effects.⁴ PectaSol-C® is also shown to support immune function, as well as safe elimination of toxins and heavy metals such as lead, mercury, and arsenic.^{5,6*}

Cool down aging with PectaSol-C®, the only clinically proven Modified Citrus Pectin delivering versatile anti-aging benefits.^{7,8*}

Clinically researched PectaSol-C® delivers comprehensive anti-aging benefits:

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Research Is Our Key Ingredient

To order **PectaSol-C® Modified Citrus Pectin**, 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.

THE UPGRADED LIFE EXTENSION MIX™

Scientists have identified multiple mechanisms by which **green tea** extract helps protect against LDL oxidation, neuronal oxidation, and a host of other structural and functional age-related changes. LIFE EXTENSION MIX™ provides more green tea extract than found in commercial formulations.

Broccoli is one of the vegetables best documented to protect healthy DNA. The broccoli concentrate in LIFE EXTENSION MIX™ is standardized to provide **sulforaphane** and other **glucosinolates**, compounds responsible for broccoli's protective benefits.

Olive polyphenols help protect against LDL oxidation, quench free radicals, and stabilize cell membranes. LIFE EXTENSION MIX™ contains an olive extract standardized to provide the best-documented polyphenol called **hydroxytyrosol**.

Luteolin is a flavonoid found in **parsley, artichoke, basil, celery**, and other foods. It has shown the ability to help protect against DNA oxidative damage. When measured against 27 other citrus flavonoids, **luteolin** proved one of the most beneficial at maintaining healthy DNA. **Luteolin** also suppresses excess levels of **interleukin-6** and **interleukin-1b**. LIFE EXTENSION MIX™ contains a standardized dose of **8 mg** of luteolin.

Lycopene is the red carotenoid in **tomatoes** that supports a healthy prostate and helps promote healthy lipid profiles for those already within a normal range.

Lutein is found in **spinach** and **collard greens** and has been shown to help maintain **eye macula pigment** structure.

Pomegranate may be the most effective plant to help maintain optimal endothelial function. This pomegranate extract is standardized to provide the punicalagins and other polyphenols found in up to 2.6 ounces of pomegranate juice.

Sesame lignans increase tissue levels of **vitamin E**, including **gamma tocopherol**, and inhibit the formation of an inflammatory precursor called arachidonic acid.

Wild blueberry extract, standardized to help maintain optimal neuronal function.

Pterostilbene is a compound naturally found in blueberries and grapes that has been shown to have beneficial, anti-aging effects

Cyanidin-3-Glucoside is a berry compound that promotes healthy function of the retina to help support night vision.

Pyridoxal 5'-phosphate helps protect against glycation reactions, a toxic process in which sugars bind to lipids and proteins to form non-functional structures in the body.

D-glucarate is found in **grapefruit, apples, oranges, broccoli**, and **Brussels sprouts**. D-glucarate supports a detoxification process that helps to remove DNA toxins.



315 tablets
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490 capsules
Item# 01854



14.81 oz powder
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9 tablets, 14 capsules, or three scoops of powder provide: Vegetable-Fruit Complex

| | |
|---|---------|
| Decaffeinated Green tea extract (45% EGCG) | 325 mg |
| Broccoli sprout concentrate extracts and calcium D-Glucarate (providing sulforaphane, glucosinolates, D-3T, and PEITC) | 725 mg |
| Olive juice extract (providing polyphenols, hydroxytyrosol, tyrosol, oleuropein) | 12.5 mg |
| Grape seed proanthocyanidin extract (Leucoselect®) | 25 mg |
| Grape (proanthocyanidin) extract (BioVin®) | 25 mg |
| Luteolin (from orange extract) | 8 mg |
| Lycopene (natural tomato extract) (Tomat-O-Red®) | 3 mg |
| Lutein (marigold extract) (465 mcg trans-zeaxanthin) | 15 mg |
| Maqui Berry (<i>Aristotelia chilensis</i>) anthocyanin extract | 100 mg |
| Milk thistle extract (85% silymarin) | 100 mg |
| Bromelain (from pineapple) | 15 mg |
| Citrus Bioflavonoids (50% hesperidin) | 200 mg |
| Acerola extract 4:1 | 300 mg |
| Bilberry extract (MirtoSelect®) | 30 mg |
| Pomegranate extract (30% punicalagins) (POMELLA®) | 85 mg |
| Sesame seed lignan extract | 10 mg |
| Fruit/Berry Complex blend (proprietary blend of concentrated blackberry, blueberry, cherry, cranberry, elderberry, persimmon, prune powders) | 200 mg |
| Wild Blueberry anthocyanin extract (fruit) | 150 mg |
| trans-Pterostilbene (from pTeroPure™) | 0.5 mg |
| Cyanidin-3-Glucoside (C3G) (from blackcurrant extract) | 1.25 mg |
| CherryPure® Tart Cherry (<i>Prunus cerasus</i>) proanthocyanidin extract | 85 mg |
| Delphinidins (from Delphinol® Maqui berry (<i>Aristotelia chilensis</i>) extract) | 2 mg |

Water-Soluble Vitamins and Enzymatic Activators

| | |
|---|-----------|
| Vitamin C | 2000 mg |
| as: ascorbic acid, calcium, magnesium & niacinamide ascorbates, ascorbyl palmitate, acerola extract | |
| Natural Folate (from lemon extract) | 400 mcg |
| Biotin | 3,000 mcg |
| Trimethylglycine (TMG) | 100 mg |
| Vitamin B1 (thiamine HCl) | 125 mg |
| Vitamin B2 (riboflavin) | 50 mg |
| Supplying: Riboflavin 5'-phosphate | 2 mg |
| Vitamin B3 (niacinamide and niacinamide ascorbate) | 117 mg |
| Vitamin B3 (niacin) | 73 mg |
| Vitamin B5 (D-calcium pantothenate) | 600 mg |
| Pantethine | 5 mg |
| Vitamin B6 (pyridoxine HCl) | 5 mg |
| Pyridoxal 5'-phosphate (vitamin B6) | 100 mg |
| Vitamin B12 (methylcobalamin) | 600 mcg |

THE MOST COMPLETE MULTIVITAMIN AVAILABLE TODAY

Published scientific studies document that people who eat the most fruits and vegetables have much lower incidences of health problems. Few people, however, consistently eat enough plant foods to protect against common age-related decline, and commercial multivitamins do not provide all of the vital plant components needed to maintain good health.¹⁻³ **Life Extension Mix™** provides a broad array of **vegetable/fruit extracts**.

Life Extension Mix™ now contains an upgraded **vitamin B12** that offers *superior absorption* compared to other forms of B12.

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The content of **delphinidins** in the new Life Extension Mix™ is equivalent to 3 1/4 cup of **raspberries** or 5 3/4 cups of dried **plums**.

The full daily dose of Life Extension Mix™ can be obtained for as little as **\$1.49** per day.

Fat-Soluble Vitamins

| | |
|--|----------|
| Vitamin A (as Betatene® natural beta-carotene from dunaliella and acetate) | 5,000 IU |
| Vitamin D3 (cholecalciferol) | 2,000 IU |
| Vitamin C (as calcium ascorbate, ascorbic acid, ascorbyl palmitate, magnesium ascorbate, niacinamide ascorbate, acerola extract) | 2,000 mg |
| Vitamin E (natural D-alpha tocopheryl succinate and D-alpha tocopherol) | 100 IU |
| Natural mixed tocopherols (providing gamma, delta, alpha, and beta tocopherols) | 60 mg |

Amino Acid Complex

| | |
|---------------------|--------|
| N-acetyl-L-cysteine | 600 mg |
| Taurine | 200 mg |

Mineral Complex

| | |
|--|----------|
| Selenium (from Se-methyl L-selenocysteine) | 100 mcg |
| Selenium (from L-selenomethionine—SelenoPure™) | 50 mcg |
| Selenium (from sodium selenite) | 50 mcg |
| Zinc (as zinc citrate) | 20 mg |
| Zinc (monomethionine) (OptiZinc®) | 15 mg |
| Boron (Albion® bororganic glycine) | 3 mg |
| Calcium | 218 mg |
| Copper (as copper bisglycinate chelate TRAACS®) | 1 mg |
| Chromium (as Crominex® 3+ chromium stabilized with Capros® and PrimaVie® Shilajit) | 500 mcg |
| Potassium chloride (37.4 mg elemental) | 71.3 mg |
| Molybdenum (sodium molybdate) | 125 mcg |
| Manganese (gluconate) | 1 mg |
| Iodine (potassium iodide) | 150 mcg |
| Magnesium oxide (335.96 mg elemental) | 560 mg |
| Magnesium citrate (35.28 mg elemental) | 261.3 mg |
| Magnesium glycinate (11.74 mg elemental) | 100 mg |
| Magnesium taurinate (7.83 mg elemental) | 100 mg |
| Magnesium arginate (5.87 mg elemental) | 100 mg |
| Magnesium ascorbate (3.40 mg elemental) | 58.1 mg |

Cholinergic Complex

| | |
|--------------------------------|--------|
| Choline (from bitartrate) | 120 mg |
| Phosphatidylcholine (from soy) | 150 mg |
| Inositol | 250 mg |

Vitamin D3 helps maintain healthy bone density and DNA. There is five times more vitamin D in LIFE EXTENSION MIX™ compared to conventional multivitamins.

The **Life Extension Mix™** utilizes **natural mixed tocopherols** that provide natural vitamin E from alpha tocopherol and a small amount of gamma tocopherol (40 mg). Compared to synthetic vitamin E, the natural form is far more **bioavailable** to the body.

N-acetyl-L-cysteine suppresses free radicals inside the cell and maintains healthy glutathione levels. **Taurine** may protect against free radicals between cells and supports eye health.

Life Extension Mix™ contains the **sodium selenite**, **selenomethionine**, and **Se-methyl L-selenocysteine** forms of 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.

Zinc is often poorly absorbed, but LIFE EXTENSION MIX™ provides two of the most bioavailable forms of zinc.

Boron is not only needed to maintain healthy bone density but may also help promote healthy prostate cell function.

LIFE EXTENSION MIX™ provides a high amount of an optimal form of **chromium** to help maintain arterial wall structure and already normal glucose levels.

Magnesium helps protect arteries and heart valves, and supports heart and brain cells. LIFE EXTENSION MIX™ provides high potencies of six different forms of magnesium to fully saturate the body with this life-saving mineral.

Maintaining high levels of **acetylcholine** in the brain helps support cognitive function and memory.

Contains soybeans. Contains fish (Tilapia).

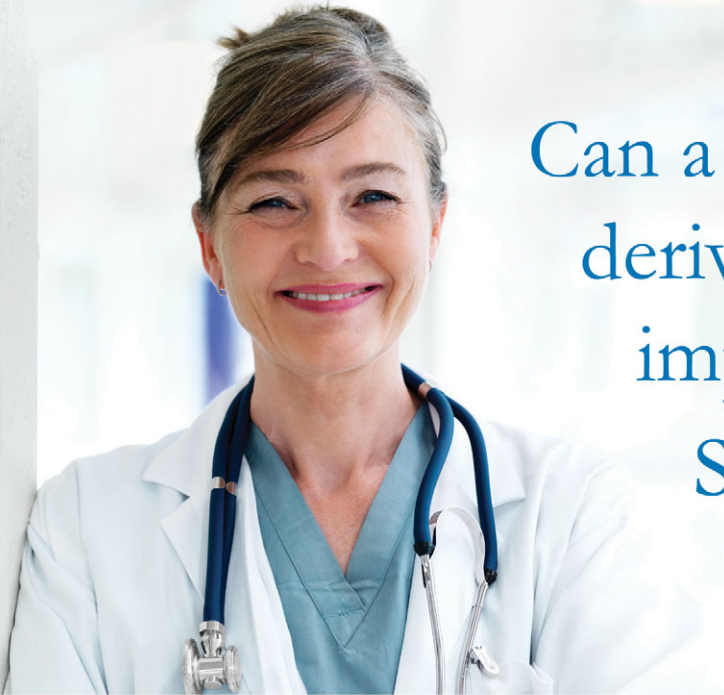
1) Betatene® is a registered trademark of BASF SE. 2) Delphinol® is a registered trademark of MNL protected by U.S. patent application US 13/076,117 and WPO PCT/IB2010/002698. 3) OptiZinc® is a registered trademark of InterHealth Nutritionals, Inc. 4) SelenoPure™ is a trademark of Nutrition 21. 5) Crominex® 3+, Capros® and PrimaVie® are registered trademarks of Natreon, Inc. 6) Leucoselect® is a registered trademark of Indena S.p.A. 7) BioVin® is a registered trademark of Cyvex Nutrition. 8) Tomat-O-Red® is a registered trademark of LycoRed LTD. 9) POMELLA® Extract is covered under U.S. Patent 7,638,640 and POMELLA® is a registered trademark of Verdure Sciences, Inc. 10) pTeroPure™ is a trademark of ChromaDex, Inc. 11) MitoSelect® is a registered trademark of Indena, S.p.A., Milan, Italy. 12) TRAACS® and Albion® are registered trademarks of Albion Laboratories, Inc. 13) CherryPure® is a registered trademark of Shoreline fruit LLC.

CAUTION: Some people choose a high-niacin version of Life Extension Mix that provides 862 mg in the daily dose, of which 345 mg is the form of niacin that can cause temporary flushing, itching or gastric disturbances. Liver function testing is recommended when niacin is taken in excess of 500 mg daily. Those with gout or liver diseases should avoid taking high doses of niacin. Consult with your doctor before using this product if you are taking anticoagulant medications. Individuals consuming more than 2,000 IU/day of vitamin D (from diet and supplements) should periodically obtain a serum 25-hydroxyvitamin D measurement. Vitamin D supplementation is not recommended for individuals with high blood calcium levels.

References

1. *Stroke*. 2004 Sep;35(9):2014-9.
2. *Mutant Res*. 1999 Jul 16;428(1-2):329-38.
3. *J Am Diet Assoc*. 1996 Oct;96(10):1027-39.

To order call toll-free
1-800-544-4440 or visit
www.LifeExtension.com



Can a protein originally derived from a jellyfish improve your memory? Scientists say, “Yes!”

Can a simple protein hold the key to improving your memory?

Researchers have discovered a protein that actually supports healthy brain function.*

For many years, researchers have known that the human brain loses cells throughout our lives, part of the natural process of aging. In fact, we lose about 85,000 brain cells per day, that is one per second, over 31 million brain cells every year! This impacts every aspect of your life...how you think and how you feel.

Recently, scientists made a significant breakthrough in brain health with the discovery that apoaeguorin can support healthy brain function, help you have a sharper mind, and think clearer.*

Supports Healthy Brain Function*

Apoaequorin is in the same family of proteins as those found in humans, but it was originally discovered in one of nature's simplest organisms — the jellyfish.

Supports a Sharper Mind*

Now produced in a scientific process, researchers formulated this vital protein into a product called Prevagen®. Prevagen is clinically shown to help with mild memory problems associated with aging.*

Improves Memory*

This type of protein is vital and found naturally in the human brain and nervous system. As we age we

can't make enough of them to keep up with the brain's demands. Prevagen supplements these proteins during the natural process of aging to keep your brain healthy. Prevagen comes in an easy-to-swallow capsule. It has no known side effects and will not interact with your current medication.

Supports Clearer Thinking*

Just how well does Prevagen work? In a computer assessed, double-blind, placebo-controlled study, Prevagen improved memory for most subjects within 90 days.*

Try Prevagen® for yourself and feel the difference.

Item #01576
Prevagen 10 mg
Retail \$60
Member Price \$45



Item #01577
Prevagen ES 20 mg
Retail \$70
Member Price \$52.50

To order Prevagen®, 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.



WELLNESS PROFILE

BY ASTRID KESSLER

Dr. Robert Huizenga

TV Doctor Helps Overweight Patients Shed Pounds And Eliminate Diabetes Medications

In addition to his thriving private medical practice in Beverly Hills, California, Dr. Robert Huizenga is a best-selling author and former physician for the Los Angeles Raiders football team. But he is best known as one of the leading weight-loss experts in the country following the success of the NBC hit reality series *The Biggest Loser*. As the show's medical director, Dr. Huizenga helps obese participants shed not only pounds, but also the unhealthy habits and lifestyle choices that result in devastating and chronic diseases.

A Harvard-trained physician, Dr. H, as he is affectionately known, has been repeatedly called upon to offer his expert opinion on all television networks, as well as major newspapers such as the *New York Times* and *LA Times*. He is currently an associate professor of clinical medicine at UCLA and the author of numerous medical abstracts and articles.



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DR. ROBERT HUIZENGA

In 2008, Dr. Huizenga penned the highly rated how-to book *Where Did All the Fat Go? The WOW Prescription to Reach Your Ideal Weight and Stay There*. The book was based on his extreme exercise-centric method of helping hundreds of overweight and obese applicants from *The Biggest Loser* lose not only weight but their current medications.

Study Results Presented At Annual Conference

Dr. Huizenga has published numerous scientific abstracts and papers regarding nonsurgical approaches to obesity, weight loss, and fat loss. In 2012, he presented the results of a study at the 21st annual conference of the American Association of Clinical Endocrinologists in Philadelphia, Pennsylvania.

“Diabetes is the fastest-growing epidemic in recent history,” says Dr. H. “Through each *Biggest Loser* season we learned, anecdotally and with ongoing checkups, that in addition to losing all that weight, our participants were receiving substantial health benefits. What this study did was bring all the results together into one comprehensive evaluation with very specific data. The results were astonishing, almost miraculous. Our participants were becoming significantly healthier metabolically.”

The study followed 35 subjects for 29 weeks. Of the participants, about **50%** had type II diabetes or prediabetes, and **77%** were prescribed medication to control high blood pressure. The average body mass index of the subjects was 40, which is the cutoff point between obese and morbidly obese.

The subjects were placed on a combination of moderate calorie

restriction (1,600 to 2,000 calories for men and 1,000 to 1,400 calories for women) and an “exercise-centric” program consisting of one hour of intense resistance exercise, one hour of intense aerobic exercise, and two hours of moderate aerobic activity daily.

By the second week, **100%** of participants were off their blood pressure medications and by week five, Dr. Huizenga says there were “absolutely unprecedented” drops in measures of metabolic dysfunction and “all diagnostic criteria for diabetes, prediabetes, and hypertension were absent in each participant.” Further unprecedented improvements included:

- Fasting glucose levels dropped from **129 to 91 mg/dL** in diabetics and from **82 to 79 mg/dL** in prediabetics.
- Mean systolic blood pressure dropped from **138 to 118 mm Hg** by the end of the study, and diastolic blood pressure dropped from a baseline of **90 to 74 mm Hg**.
- Overall, mean fasting insulin fell from **14.1 to 5.5 μ IU/mL**, mean homeostasis model assessment estimated-insulin resistance (HOMA-IR) score fell from **2.1 to 0.5**, mean serum adiponectin levels rose from **8.6 to 13.1 μ g/mL**, and mean triglycerides fell from **127 to 65 mg/dL**.

Dr. H Responds To His Critics

Doctor Huizenga has been criticized by those who say this study is unrealistic because no one (outside of those on a TV show) can be expected to exercise four hours a day. He responds that following the program, participants were

advised to work out for a much more realistic 90 minutes a day, and that finding the time is a matter of priorities. He adds that at the beginning of the study, contestants admitted watching five to six hours of television per day. By the end of the study, viewing time was decreased to just one to two hours per day.

People have plenty of time to devote to working out, Dr. Huizenga says, if they want to cure diseases like diabetes, live longer, and improve their quality of life. Those who cannot find the time need consider the alternative.

“Everyone has time for essential daily activities—when your tooth has a painful infection, you cancel the day’s meetings and go to the dentist. If you are diagnosed with cancer, believe me, you’ll change your entire life to accommodate doctors’ appointments, cancer treatment, and prevention of relapse,” he says.

“Why then wouldn’t everyone have two weeks to initiate state-of-the-art, medication-free stroke, diabetes, heart disease, and cancer prevention and carry on at home with 60 to 90 minutes a day of exercise given these health stakes?”

“If you have overflowing abdominal fat, you’re facing a choice not terribly dissimilar from [these] examples. Your excess fat is a deliberate poison. It’s not easy, but two hours a day of exercise with calorie counting and moderate caloric restriction for six months is a small price to pay to remove the poison.”

Dr. Huizenga also says that current exercise recommendations of two-and-a-half hours a week are completely inadequate.

“If we get away from dumbed-down exercise recommendations, we could see a whole new paradigm for treating type II diabetes. We found that our participants tended to sit less after going through the program,” says Dr. H., who believes

most people should exercise an average of 60 to 90 minutes per day.

"I have a job and I work out from 90 to 100 minutes per day," he says. "It's about setting priorities. Time is not the issue; priorities are the issue."

Tackling Obesity One On One

In 2013, Dr. Huizenga opened The Clinic, a combination weight-loss facility, spa, and medical center in Malibu, California, that aims to help patients eliminate excess fat and fat-related diseases including diabetes, high blood pressure and other cardiovascular disease, asthma, sleep disorders, mood disorders such as depression and anxiety, and eating disorders.

The two-week program begins with a complete 12-point exam that measures blood work including CBC, chemistry panel, urinalysis, C-reactive protein, thyroid, insulin, and more, a glucose tolerance test, treadmill test, ECG, bone density evaluation, resting metabolic rate, and more.

"I decided to open The Clinic when I discovered [the] obese patients I was treating demonstrated an absolute elimination of diabetes, prediabetes, hypertriglyceridemia, and hypertension in only six weeks with an exercise-centric weight-loss program," says Dr. H.

"All [patients] had completely eliminated all medications at the beginning of their personalized program. The rapidity and completeness of diabetic marker and blood pressure normalization had never been seen before. At the three-year mark, fat loss has been fully maintained in **75%** of these individuals. Considering the fact that type II diabetes is the most rapidly expanding epidemic in the history of mankind,



my aggressive approach—though not for everyone—offers a much needed alternative to standard advice 'eat better, move more, and take these drugs,' which for many reasons rarely works and does not offer a long-term solution to a long-term problem or the issues that created them."

Improving Health And Increasing Longevity

The numbers don't lie: According to the latest research from the National Institutes of Health, obesity—a body mass index of 40 or more—shortens life span by 6.5 years, or almost **20%** of their remaining life. The data indicates that the deaths are mostly due to heart disease, cancer, and diabetes.

The excess weight impacts chronic disease and reduces longevity in the following ways, says Dr. Huizenga:

- "Inflammation" effects: Fat infiltrated inside organs is associated with the release of harmful signals that increase the risk of high blood pressure, type II diabetes, and cancer.

- "Mass" effects: Every one pound of abdominal fat increases mechanic stress on hips and knees by three to four pounds.
- "Pressure" effects: The fat in a protuberant belly squeezes organs, resulting in incontinence, reflux, shortness of breath, and sleep apnea.

"When people become physically and physiologically fit, eat food that supports physical and emotional well-being, reduce the amount of visceral fat on their bodies, and address tobacco and drug abuse, **80%** of disease can potentially be prevented," says Dr. H. "Likewise, **80%** of prescription medication can be eliminated. Sadly, few patients prioritize their time and resources to fully obtain the health benefits available to them." ●

For more information, please contact
Bernie Salazar at 1-310-279-4635.
www.acquamalibu.com
info@acquamalibu.com

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



Obtain the Power of Magnesium

Are You Deficient in The Body's #1 Mineral?

Magnesium is the **most important** mineral in the body, yet most Americans do not obtain sufficient magnesium from their diet.

Magnesium is required for more than **300 biochemical reactions** and many of the body's critical functions are dependent upon it. Magnesium helps:^{1,2}

- Maintain normal **muscle** and **nerve function**.
- Keep **heart rhythm** steady.
- Support a healthy **immune system**.
- Keep **bones strong**.
- Maintain **blood sugar levels** already within normal range.
- Promote normal **blood pressure**. Magnesium is also...
- Involved in **energy metabolism** and **protein synthesis**.

The recommended intake of magnesium to maintain vascular health is **500 mg** or more a day. With **Life Extension Magnesium Caps**, you can easily obtain **500 mg** of elemental magnesium for less than **7 cents a day!**

A bottle of 100 vegetarian capsules of **500 mg Magnesium Caps** retails for **\$12**. If a member buys four bottles, the price is reduced to **\$7.50** per bottle.

Caution: If taken in high doses, magnesium may have a laxative effect. If this occurs, divide dosing, reduce intake, or discontinue use.



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

References

1. *Am J Clin Nutr.* 1987;45:1305-12.
2. *Clinica Chimica Acta.* 2000;294:1-26.

ITEM # 01707

REMARKABLE WEIGHT REDUCTION WITH **CoffeeGenic®** Green Coffee Bean Extract



In a placebo-controlled human study, subjects took **350 mg of green coffee extract** three times daily (before meals).

Study subjects were not asked to change their calorie intake or exercise level, but people participating in weight-loss trials often do make lifestyle changes in order to increase their odds of shedding body fat.

The impressive findings, published in January 2012, noted that men and women lost an average of **17.6 pounds**—over **10%** of body weight—after **12 weeks of green coffee extract** supplementation! There was also an average **4.44%** reduction in body fat percentage!¹

The conclusion is that **green coffee extract** supports the ability to lose weight.¹ The form of **green coffee bean extract** used in this successful weight loss study is **CoffeeGenic® Green Coffee Extract**.

How CoffeeGenic® Works

The active ingredient in **green coffee bean extract** is **chlorogenic acid**.

Published studies on **chlorogenic acid** demonstrate a wide range of supportive properties related to insulin sensitivity,² and to glucose formation,^{3,4} and absorption.⁵

Clinical research has shown that **chlorogenic acid** helps limit after-meal glucose surges, supporting healthy blood sugar levels for those already within the normal range.⁶

CoffeeGenic® Green Coffee Extract provides a standardized dose of **chlorogenic acid** extracted from **green coffee beans**.

Based on the latest research, **CoffeeGenic® Weight Management™ with Green Coffee Extract** has been formulated to provide in each capsule:

| | |
|--|----------------|
| CoffeeGenic® Green Coffee Extract (bean) [Standardized to 50% <i>chlorogenic acids</i> (175 mg)] | 350 mg |
| Integra-Lean® African Mango (<i>Irvingia gabonensis</i>) proprietary extract (seed) | 100 mg |
| Chromium [as Crominex® 3+ chromium stabilized with Capros® Amla extract (fruit) and PrimaVie® Shilajit] | 150 mcg |
| Iodine (as potassium iodide) | 100 mcg |
| Green Tea decaffeinated extract (leaf) [std. to 98% polyphenols by UV (49 mg), 45% EGCG by HPLC (22.5 mg)] | 50 mg |

The suggested dose is just one capsule before each meal. A bottle of **90 vegetarian capsules of Coffee-Genic® Weight Management™ with Green Coffee Extract** retails for \$40. If a member buys four bottles, the price is reduced to **\$27 per bottle**.

References

1. *Diabetes Metab Syndr Obes.* 2012;5:21-7.
2. *J Nutr Biochem.* 2006 Jan;17(1):63-71.
3. *J Agric Food Chem.* 2010 Apr 14;58(7):4141-4.
4. *Ethnopharmacol.* 2010 Jul 6;130(1):93-7.
5. *J Nutr Sci Vitaminol (Tokyo).* 2007 Apr;53(2):166-73.

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

Caution: If you are taking blood glucose lowering medication, consult your healthcare provider before taking this product.

6. Nagendran MV. Effect of Green Coffee Bean Extract (GCE), High in Chlorogenic Acids, on Glucose Metabolism. Poster presentation number: 45-LB-P. Obesity 2011, the 29th Annual Scientific Meeting of the Obesity Society. Orlando, Florida. October 1-5, 2011.

Integra-Lean® *Irvingia* is protected by U.S. Patent No. 7,537,790. Other patents pending. IG08-131* proprietary extract is a registered trademark of Gateway Health Alliances, Inc. Crominex® 3+, Capros® and PrimaVie® are registered trademarks of Natreon, Inc.

To order CoffeeGenic® Weight Management™ with Green Coffee Extract, call 1-800-544-4440 or visit www.LifeExtension.com

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



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

Five Easy Steps:

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

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

For Our Local Members:

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

Blood Testing The Ultimate Information

MOST POPULAR PANELS

Life Extension Member Pricing

| | |
|---|---|
| <p>○ COMPREHENSIVE PANELS</p> <p>○ MALE LIFE EXTENSION PANEL (LC322582) \$269 Chemistry Profile includes glucose, cholesterol, LDL, HDL, triglycerides, liver and kidney function tests PLUS 20 additional tests. CBC includes immune (white) cell count, red blood cell count and platelet count. Also includes: C-Reactive Protein, DHEA-S, Homocysteine, TSH for thyroid function, Free Testosterone, Estradiol, Total Testosterone, Vitamin D 25- hydroxy, PSA (prostate-specific antigen), Hemoglobin A1c</p> | <p>○ THE CBC/CHEMISTRY PROFILE (LC381822) \$35 Note: This CBC/Chemistry Profile is included in many Life Extension panels. Please check panel descriptions.</p> <p>CARDIOVASCULAR RISK PROFILE Total Cholesterol Cholesterol/HDL Ratio HDL Cholesterol Estimated CHD Risk LDL Cholesterol Glucose Triglycerides Iron</p> <p>LIVER FUNCTION PANEL AST (SGOT) Total Bilirubin ALT (SGPT) Alkaline Phosphatase LDH</p> |
| <p>○ FEMALE LIFE EXTENSION PANEL (LC322535) \$269 Chemistry Profile includes glucose, cholesterol, LDL, HDL, triglycerides, liver and kidney function tests PLUS 20 additional tests. CBC includes immune (white) cell count, red blood cell count and platelet count. Also includes: C-Reactive Protein, DHEA-S, Homocysteine, TSH for thyroid function, Free Testosterone, Estradiol, Total Testosterone, Progesterone, Vitamin D 25- hydroxy, Hemoglobin A1c</p> | <p>KIDNEY FUNCTION PANEL BUN BUN/Creatinine Ratio Creatinine Uric Acid</p> <p>BLOOD PROTEIN LEVELS Total Protein Globulin Albumin Albumin/Globulin Ratio</p> <p>BLOOD COUNT/RED AND WHITE BLOOD CELL PROFILE Red Blood Cell Count Monocytes White Blood Cell Count Lymphocytes Eosinophils Platelet Count Basophils Hemoglobin Polys (Absolute) Hematocrit Lymphs (Absolute) MCV Monocytes (Absolute) MCH Eos (Absolute) MCHC Baso (Absolute) Polynucleated Cells RDW</p> |
| <p>○ WEIGHT LOSS PANEL-COMPREHENSIVE (LC100028) \$275 CBC/Chemistry profile (see description above), DHEA-S, free and total Testosterone, Estradiol, Progesterone, Cortisol, TSH, Free T3, Free T4, Reverse T3, Insulin, Hemoglobin A1c, Vitamin D 25-hydroxy, C-reactive protein (high sensitivity), and Ferritin.</p> | <p>BLOOD MINERAL PANEL Calcium Sodium Potassium Chloride Phosphorus Iron</p> |
| <p>○ WEIGHT LOSS PANEL-BASIC (LC100027) \$130 CBC/Chemistry profile (see description above), DHEA-S, free and total Testosterone, Estradiol, Progesterone, Cortisol, TSH, Free T3, Insulin and Hemoglobin A1c.</p> | <p>○ COMPREHENSIVE THYROID PANEL (LC100018) \$199 TSH, T4, Free T4, Free T3, Reverse T3, TPO, ATA</p> |
| <p>○ MALE HORMONE ADD-ON PANEL (LCADDM)* \$155 Pregnenolone and Dihydrotestosterone (DHT) To provide an even more in-depth analysis of a man's hormone status, Life Extension has created this panel as an addition to the Male Life Extension Panel. This panel provides valuable information about a testosterone metabolite that can affect the prostate, and the mother hormone that acts as a precursor to all other hormones.</p> | <p>○ FOOD SAFE ALLERGY TEST** (LCM73001) \$198 This test measures delayed (IgG) food allergies for 95 common foods.</p> |
| <p>○ FEMALE HORMONE ADD-ON PANEL (LCADDF)* \$125 Pregnenolone and Total Estrogens To provide an even more in-depth analysis of a woman's hormone status, Life Extension has created this panel as an addition to the Female Life Extension Panel. This panel provides valuable information about total estrogen status, and the mother hormone that acts as a precursor to all other hormones.</p> | <p>○ ADRENAL FUNCTION PANEL (LC100021) \$136 DHEA-S, AM/PM Cortisol, Glucose, Insulin, Lipid Panel, RBC magnesium</p> |
| <p>○ LIFE EXTENSION THYROID PANEL (LC304131) \$75 TSH, T4, Free T3, Free T4.</p> | <p>○ HEALTHY AGING PANEL-COMPREHENSIVE† (LC100026) \$249 CBC/Chemistry profile (see description above), C-reactive protein (high sensitivity), Vitamin B12, Folate, Homocysteine, Vitamin D 25-hydroxy, Hemoglobin A1c, TSH, Free T3, Free T4, Ferritin, Urinalysis, Fibrinogen, and Insulin.</p> |
| <p>○ FEMALE COMPREHENSIVE HORMONE PANEL* (LC100011) \$299 CBC/Chemistry Profile (see description above), DHEA-S, Estradiol, Total Estrogens, Progesterone, Pregnenolone, Total and Free Testosterone, SHBG, TSH, Free T3.</p> | <p>○ HEALTHY AGING PANEL-BASIC† (LC100025) \$149 CBC/Chemistry profile (see description above), C-reactive protein (high sensitivity), Vitamin B12, Folate, Vitamin D 25-hydroxy, Hemoglobin A1c, TSH, Ferritin, and Insulin.</p> |
| <p>○ MALE COMPREHENSIVE HORMONE PANEL* (LC100010) \$299 CBC/Chemistry Profile (see description above), DHEA-S, Estradiol, DHT, PSA, Pregnenolone, Total and Free Testosterone, SHBG, TSH, Free T3.</p> | <p>○ VAP™ TEST* (LC804500) \$90 The VAP™ cholesterol test provides a more comprehensive coronary heart disease (CHD) risk assessment than the conventional lipid profile. Direct measurements, not estimations, are provided for total cholesterol, LDL, HDL, VLDL, and cholesterol subclasses.</p> |

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

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



Other Popular Tests and Panels Life Extension Member Pricing

- ☐ **ENERGY PROFILE (LC100005)** **\$375**
CBC/Chemistry Profile (see description), Epstein-Barr Virus antibodies (IgG and IgM), Cytomegalovirus Antibodies (IgG and IgM), Ferritin, Total and Free Testosterone, DHEA-S, Free T3, Free T4, Cortisol, C-Reactive Protein (high sensitivity), Vitamin B12, Folate, Insulin.
- ☐ **ANEMIA PANEL* (LC100006) \$86**
CBC/Chemistry Profile (see description), Ferritin, Total Iron Binding Capacity (TIBC), Vitamin B12, Folate, Reticulocyte Count.
- ☐ **INFLAMMATION PANEL (LC100007)** **\$135**
CBC/Chemistry Profile (see description above), C-Reactive Protein (high sensitivity), Sedimentation Rate, Rheumatoid (RA) Factor, Antinuclear Antibodies (ANA) Screen.
- ☐ **THYROID ANTIBODY PROFILE (LC100004)** **\$99**
Thyroid Antithyroglobulin Antibody (ATA) and Thyroid Peroxidase Antibody (TPO).
- ☐ **CARDIAC PLUS* (LC100008) \$145**
CBC/Chemistry profile (see description), Vitamin D 25-hydroxy, C-Reactive Protein (high sensitivity), Fibrinogen, Homocysteine.
- ☐ **VAP™ PLUS* (LC100009)** **\$330**
VAP, C-Reactive Protein (high sensitivity), Homocysteine, Fibrinogen, PLAC® Test (Lp-PLA2), Vitamin D 25-hydroxy.
- CARDIAC RISK**
- ☐ **COQ10* (COENZYME Q10) (LC120251)** **\$99**
This test is used to check the blood level of CoQ10 and will enable more precise dosing for anyone seeking to achieve and maintain high levels of this critical antioxidant.
- ☐ **Lp-PLA2 (PLAC® TEST) (LC123240)** **\$125**
This test is used to aid in predicting risk for coronary heart disease, and ischemic stroke associated with atherosclerosis. Lp-PLA2 is a cardiovascular risk factor that provides unique information about the stability of the plaque inside your arteries.
- ☐ **GLYCOMARK (LC500115)** **\$99**
This test measures your average **maximum** glucose over the past two weeks and is an effective tool in monitoring postmeal glucose control.
- ☐ **NUTRIENT PANEL† (LC100024)** **\$349**
Vitamin B12, Folate, Vitamin D 25-hydroxy, Vitamin C, Vitamin A, Selenium, Zinc, CoQ10, and RBC magnesium.
- ☐ **MALE HEALTH**
- ☐ **PSA (PROSTATE-SPECIFIC ANTIGEN) (LC010322)** **\$31**
Can provide an early warning sign for prostate disorders and possible cancer.

- HORMONES**
- ☐ **DHEA-SULFATE (LC004020)** **\$61**
This test shows if you are taking the proper amount of DHEA. This test normally costs \$100 or more at commercial laboratories.
- ☐ **MALE BASIC HORMONE PANEL (LC100012)** **\$75**
DHEA-S, Estradiol, Free and Total Testosterone, PSA
- ☐ **FEMALE BASIC HORMONE PANEL (LC100013)** **\$75**
DHEA-S, Estradiol, Free and Total Testosterone, Progesterone
- ☐ **DIHYDROTESTOSTERONE (DHT)* (LC500142)** **\$99**
Measures serum concentrations of DHT.
- ☐ **ESTRADIOL (LC004515)** **\$33**
For men and women. Determines the proper amount in the body.
- ☐ **INSULIN FASTING (LC004333)** **\$25**
Can predict those at risk of diabetes, obesity, and heart and other diseases.
- ☐ **PREGNENOLONE* (LC140707)** **\$116**
Used to determine ovarian failure, hirsutism, adrenal carcinoma, and Cushing's syndrome.
- ☐ **PROGESTERONE (LC004317)** **\$55**
Primarily for women. Determines the proper amount in the body.
- ☐ **SEX HORMONE BINDING GLOBULIN (SHBG) (LC082016)** **\$33**
This test is used to monitor SHBG levels which are under the positive control of estrogens and thyroid hormones, and suppressed by androgens.
- BONE HEALTH**
- ☐ **VITAMIN D (25OH) (LC081950)** **\$47**
This test is used to rule out vitamin D deficiency as a cause of bone disease. It can also be used to identify hypercalcemia.
- ☐ **OSTEOCALCIN* (LC010249)** **\$91**
Osteocalcin is often used as a biochemical marker, or biomarker, for the bone formation process. It has been routinely observed that higher serum osteocalcin levels are relatively well correlated with bone diseases characterized by increased bone turnover, especially osteoporosis.
- ☐ **DPD CROSS LINK URINE TEST (LC511105)** **\$79**
The deoxypyridinoline (DPD) urine test can be used to measure bone re-absorption rates in healthy individuals and in those with enhanced risk of developing metabolic bone diseases. Deoxypyridinoline can be used to monitor therapies (which may include bisphosphonate drugs) in people diagnosed with osteoporosis.

Blood tests available only in the continental United States. Not available in Maryland.

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

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

Life Extension Foundation Members only

MEMBER NO.

☐ Male ☐ Female

Name

Date of Birth
(required) / /

Address

City

State

Zip

Phone

Credit Card No.

Expiration Date /

Mail your order form to:

LifeExtension®
National Diagnostics, Inc.

3600 West Commercial Boulevard
Fort Lauderdale, FL 33309

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

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

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

PRODUCTS

AMINO ACIDS

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

BONE & JOINT HEALTH

ArthroMax® with Theaflavins and AprèsFlex®
ArthroMax® Advanced with UC-II® and AprèsFlex®
Bone-Up™
Bone Restore
Bone Restore w/Vitamin K2
Bone Strength Formula w/KoAct™
Dr. Strum's Intensive Bone Formula
Fast Acting Joint Formula
Glucosamine Chondroitin Capsules

BRAIN HEALTH

Acetyl-L-Carnitine
Acetyl-L-Carnitine-Arginate
Brain Shield®
Cognitex® with Brain Shield®
Cognitex® with Pregnenolone & Brain Shield®
Cognitex® Basics
Cognizin® CDP Choline Capsules
DMAE Bitartrate
Ginkgo Biloba Certified Extract™
Huperzine A
Lecithin Granules
Methylcobalamin Lozenges
Migra-Mag with Brain Shield®
Neuro-Mag™ Magnesium L-Threonate
Optimized Ashwagandha Extract
Phosphatidylserine Capsules
Prevagen®
Rhodiola Extract
Super Ginkgo Extract
Vinpocetine

DIGESTIVE

Bifido GI Balance
Carnosoothe w/PicroProtect
Digest RC™
Esophageal Guardian
Enhanced Super Digestive Enzymes
Extraordinary Enzymes
FlorAssist® Probiotic
Gutzy Chewy Digestive Tablets
Pancreatin
Regimint
Theralac Probiotics

DURK AND SANDY PRODUCTS

Blast™
Inner Power™

EYE CARE

Bilberry Extract
Brite Eyes III
Eye Pressure Support with Mirtogenol®
MacuGuard™ Ocular Support
MacuGuard™ Ocular Support with Astaxanthin
Solarshield Sunglasses

FIBER

AppleWise Polyphenol
Fiber Food
TruFiber®
WellBetX PGX® plus Mulberry

FOOD

Rich Rewards™ Black Bean Vegetable Soup
Rich Rewards™ Spicy Cruciferous Vegetable Soup
Rich Rewards™ Cruciferous Vegetable Soup
Rich Rewards™ Lentil Soup
Rich Rewards™ Mung Bean Soup with Turmeric
Rich Rewards® Coffee
(Available in mocha, vanilla and decaffeinated)
Rich Rewards™ Protein Creamer
Rich Rewards® Whole Bean Coffee

HAIR CARE

Dr. Proctor's Advanced Hair Formula
Dr. Proctor's Shampoo
Super-Absorbable Tocotrienols

HEART HEALTH

AppleWise Polyphenol
Advanced Lipid Control
Advance Olive Leaf Vascular Support
w/Celery Seed Extract
Aspirin (Enteric Coated)
Cardio Peak™ w/Standardized Hawthorn and Arjuna
Cho-Less™
D-Ribose Tablets
D-Ribose Powder
Endothelial Defense™ with Full-Spectrum Pomegranate™
Fibrinogen Resist
Forskolin
Homocysteine Resist
Natural BP Management
Peak ATP® with GlycoCarn®
PhosphOmega®
Policosanol
PROVINAL® Purified Omega-7
Pycnogenol® French Maritime Pine Bark Extract
Red Yeast Rice
Super Absorbable CoQ10™ with d-Limonene
Super Omega-3 EPA/DHA with Sesame Lignans & Olive Fruit Extract
Super Omega with Krill & Astaxanthin
Super Ubiquinol CoQ10
Super Ubiquinol CoQ10 with BioPQQ®
Super Ubiquinol CoQ10 with Enhanced Mitochondrial™ Support
Theaflavin Standardized Extract
TMG Powder
TMG Liquid Capsules

HERBAL/PHYTO PRODUCTS

Artichoke Leaf Extract
Asian Energy Boost
Astaxanthin w/Phospholipids
Berry Complete
Blueberry Extract
Blueberry Extract w/Pomegranate
Butterbur Extract w/Standardized Rosmarinic Acid
Calcium D-Glucarate
Enhanced Berry Complete with Acai
Full-Spectrum Pomegranate™
Grapeseed Extract with Resveratrol & Pterostilbene
Huperzine A
Kyoic® Garlic Formula 102 + 105
Kyoic® Reserve
Mega Green Tea Extract
Mega Green Tea Extract (Decaffeinated)
(also w/CoffeeGenic® Green Coffee Extract)
Mega Lycopene Extract
Optimized Ashwagandha Extract
Optimized Garlic
Pomegranate Extract
Pycnogenol

Optimized Quercetin
Resveratrol with Synergistic Grape-Berry Actives
Rhodiola Extract
Silymarin
SODzyme™ with GliSODin®
Stevia Extract
Advanced Bio-Curcumin®
with Ginger & Turmerones
Super Bio-Curcumin®
Super Ginkgo Extract
Triple Action Cruciferous Vegetable Extract
Venotone
Whole Grape Extract

HORMONES

Advanced Natural Sex for Women® 50+
7-KETO® DHEA
DHEA
DHEA Complete
GH Pituitary Support Day Formula
GH Pituitary Support Night Formula
Liquid Melatonin
Melatonin
Melatonin Timed Release
Natural Estrogen with Pomegranate Extract
Pregnenolone
ProgestaCare for Women
Super Miraforte with Standardized Lignans

IMMUNE ENHANCEMENT

AHCC® (Active Hexose Correlated Compound)
Black Cumin Seed Oil
Black Cumin Seed Oil w/Bio-Curcumin®
Buffered Vitamin C Powder
Echinacea Extract
FlorAssist™ Probiotic
i26 Hyperimmune Egg
Immune Modulator w/Tinofend®
Immune Protect with PARACTIN®
Lactoferrin
Norwegian Shark Liver Oil
Optimized Fucoidan w/Maritech® 926
Peony Immune
ProBoost™ Thymic Protein A
Reishi Extract Mushroom Complex
Vitamin C with Dihydroquercetin
Zinc Lozenges

INFLAMMATORY REACTIONS

Arthro-Immune Joint Support
ArthroMax® with Theaflavins
Boswella
Bromelain (Specially-coated)
Cytokine Suppress™ with EGCG
DHA (Vegetarian Sourced)
Fast Acting Joint Formula
Ginger Force®
Krill Healthy Joint Formula
5-LOX Inhibitor w/AprèsFlex®
Mega EPA/DHA
Mega GLA with Sesame Lignans
MSM
Organic Golden Flax Seed
Serrafazyme
SODzyme™ with GliSODin® and Wolfberry
Super Omega-3 EPA/DHA with Sesame Lignans & Olive Fruit Extract
Tart Cherry w/Standardized CherryPURE®
Zyflamend® Whole Body

LIVER HEALTH

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

MINERALS

Biosil
Bone Restore
Bone Strength Formula w/KoAct®
Bone-Up™
Boron Capsules
Calcium Citrate with D3
Chromium Ultra
Copper
Iron Protein Plus
Magnesium
Magnesium Citrate
Only Trace Minerals
Optimized Chromium w/Crominex® 3+
OptiZinc
Sea-Iodine™
Selenium
Se-Methyl L-Selenocysteine
Strontium
Vanadyl Sulfate
Zinc Lozenges

MISCELLANEOUS

Blood Pressure Monitor Arm Cuff
CR Way Edition Advanced Dietary Software

MITOCHONDRIAL SUPPORT

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

MOOD RELIEF

Adrenal Energy Formula
Bioactive Milk Peptides
L-Theanine
5 HTP
Enhanced Natural Sleep® w/ Melatonin
Enhanced Natural Sleep® w/o Melatonin
Natural Stress Relief
SAmE
L-Tryptophan
Optimized Tryptophan Plus

MOUTH CARE

Advanced Oral Hygiene
Mouthwash w/Pomegranate
Toothpaste
Xyliwhite™ Mouthwash

MULTIVITAMIN

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

PET CARE

Cat Mix
Dog Mix

PROSTATE & URINARY HEALTH

Optimized Cran-Max® with UTIRose™
5-LOXIN®
PalmettoGuard™ Saw Palmetto w/Beta Sitosterol
Pomi-T®

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

SKIN CARE

Advanced Lightening Cream
Advanced Triple Peptide Serum
Advanced Under Eye Serum with Stem Cells
Amber Self MicroDermAbrasion
Anti-Aging Mask
Anti-Glycation Serum
Anti-Aging Rejuvenating Face Cream with Coffee Extracts
Anti-Aging Rejuvenating Scalp Serum
Antioxidant Rejuvenating Foot Cream
Antioxidant Rejuvenating Foot Scrub
Antioxidant Rejuvenating Hand Cream
Antioxidant Rejuvenating Hand Scrub
Anti-Redness & Blemish Lotion
Bio-Collagen w/Patented UC-II®
Bioflavonoid Cream
Broccoli Sprout
Corrective Clearing Mask
DNA Repair Cream
Dual-Action MicroDermAbrasion
Essential Plant Lipids Reparative Serum
Face Master® Platinum
Face Rejuvenating Antioxidant Cream
Enhanced FernBlock® with Red Orange Complex
Fine Line-Less
Hair Suppress Formula
Healing Formula All-in-One Cream
Healing Mask
Hyaluronic Facial Moisturizer
Hydrating Anti-oxidant Face Mist
Hydroderm®
Lifting & Tightening Complex
Lycopene Cream
Melatonin Cream
Mild Facial Cleanser
Neck Rejuvenating Antioxidant Cream
Pigment Correcting Cream
(Ultra) Rejuvenex®
Rejuvenex® Body Lotion
RejuvenexX® Factor Firming Serum
Rejuvenating Serum
Renewing Eye Cream
Resveratrol Anti-Oxidant Serum
Skin Lightening Serum
Skin Restoring Phytoceramides w/Lipowheat®
Skin Stem Cell Serum
Stem Cell Cream w/Alpine Rose
Ultra Rejuvenex®
Ultra RejuveNight® w/o Progesterone
Ultra Lip Plumper
Ultra Wrinkle Relaxer
Under Eye Refining Serum
Under Eye Rescue Cream
Vitamin C Serum
Vitamin D Lotion
Vitamin E-ssential Cream
Vitamin K Healing Cream
Youth Serum

SOY

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

SPECIAL PURPOSE FORMULA

Anti-Alcohol Antioxidants w/HepatoProtection Complex
Benfotiamine w/Thiamine
Breast Health Formula
Butterbur Extract w/Standardized Rosmarinic Acid
Chlorella
Chlorophyllin
Green Coffee Extract CoffeeGenic® (also w/Glucose control)
Coriolus Super Strength

CR Mimetic Longevity Formula
Cinsulin® w/InSea2® and Crominex® 3+
European Leg Solution Diosmin 95
Fem Dophilus
Femmenessence MacaPause®
GlycemicPro™ Transglucosidase
Migra-eeze™
Natural Female Support
Pecta-Sol®
Potassium Iodide
PQQ Caps with BioPQQ®
PteroPure®
Prelox® Natural Sex for Men®
Pyridoxal 5' - Phosphate
Tri Sugar Shield™

SPORTS PERFORMANCE

Creatine Capsules
DMG (N, N-dimethylglycine)
L-Glutamine Capsules
L-Glutamine Powder
Whey Protein Isolate
Whey Protein Concentrate

VITAMINS

Ascorbyl Palmitate Capsules
B12
Beta-Carotene
Biotin Capsules
Buffered Vitamin C Powder
Complete B Complex
Effervescent Vitamin C
Fast-C®
Folic Acid + B12
Gamma E Tocopherol w/Sesame Lignans
Gamma E Tocopherol/Tocotrienols
Inositol Capsules
Mega Lycopene Extract
Methylcobalamin
MK-7
No-Flush Niacin
Optimized Folate
Super Ascorbate C Capsules
Super Ascorbate C Powder
Super K w/Advanced K2 Complex
Tocotrienols w/Sesame Lignans
Vitamin B3 (Niacin) Capsules
Vitamin B6
Vitamin B12 Lozenges
Vitamin C
Vitamin D3
Vitamin D3 w/Sea-Iodine™
Vitamins D and K w/Sea-Iodine™
Vitamin E
Vitamin K2

WEIGHT MANAGEMENT

Advanced Anti-Adipocyte Formula w/Meratrim® & Integra Lean®
Advanced Natural Appetite Suppress
Calorie Control Weight Management™ Formula w/CoffeeGenic® Green Coffee Extract
CalReduce Selective Fat Binder
CoffeeGenic® Weight Management™ with Green Coffee Extract
7-KETO DHEA
DHEA® Complete
Fucoxanthin Slim™
Garcinia HCA
Integra-Lean® African Mango Irvingia
Optimized Irvingia w/Phase 3™ Calorie Control Complex
Optimized Saffron with Satiereal®
Natural Glucose Absorption Control
Super Citrimax®
Super CLA Blend w/Guarana and Sesame Lignans
Super CLA Blend w/Sesame Lignans
WellBetX PGX® plus Mulberry

Buyers Club Order Form

To order call: 1.954.766.8433 or 1.800.544.4440

| No. | | Retail Each | Member Each | Qty | Total |
|----------|---|----------------|----------------|-----|-------|
| A | | | | | |
| 01524 | ACETYL-L-CARNITINE - 500 mg, 100 veg. caps | \$34.00 | \$25.50 | | |
| | Buy 4 bottles, price each | 30.00 | 22.50 | | |
| 01525 | ACETYL-L-CARNITINE ARGINATE - 100 veg. caps | 59.00 | 44.25 | | |
| | Buy 4 bottles, price each | 50.99 | 38.24 | | |
| 01628 | ADRENAL ENERGY FORMULA - 60 veg. caps | 24.00 | 18.00 | | |
| | Buy 4 bottles, price each | 22.00 | 16.50 | | |
| 01630 | ADRENAL ENERGY FORMULA - 120 veg. caps | 46.00 | 34.50 | | |
| | Buy 4 bottles, price each | 42.00 | 31.50 | | |
| 01828 | ADVANCED LIPID CONTROL - 60 veg. caps | 30.00 | 22.50 | | |
| | Buy 4 bottles, price each | 27.00 | 20.25 | | |
| 01521 | ADVANCED ORAL HYGIENE - 60 mint lozenges | 20.00 | 15.00 | | |
| | Buy 4 bottles, price each | 18.00 | 13.50 | | |
| 00681 | AHCC - 500 mg, 30 caps | 59.98 | 44.99 | | |
| 00457 | ALPHA-LIPOIC ACID w/BIOTIN (SUPER) - 250 mg, 60 caps | 37.00 | 27.75 | | |
| | Buy 4 bottles, price each | 32.00 | 24.00 | | |
| 01440 | ANTI-ALCOHOL ANTIOXIDANTS w/HEPATOPRO - 100 caps | 26.00 | 19.50 | | |
| | Buy 4 bottles, price each | 23.00 | 17.25 | | |
| 01509 | ANTI-ADIPOCYTE FORMULA w/MERATRIM® & INTEGRA LEAN® (ADVANCED) - 60 veg. caps | 39.00 | 29.25 | | |
| | Buy 4 bottles, price each | 36.00 | 27.00 | | |
| 01625 | APPLEWISE POLYPHENOL EXTRACT - 600 mg, 30 veg. caps | 21.00 | 15.75 | | |
| | Buy 4 bottles, price each | 19.00 | 14.25 | | |
| 01039 | ARGININE/ORNITHINE - 500/250, 100 caps | 17.99 | 13.49 | | |
| 00038 | ARGININE/ORNITHINE POWDER - 150 grams | 22.95 | 17.21 | | |
| | Buy 4 bottles, price each | 19.00 | 14.25 | | |
| 01624 | (L)-ARGININE CAPS - 700 mg, 200 veg. caps | 26.50 | 19.88 | | |
| | Buy 4 bottles, price each | 23.25 | 17.44 | | |
| 01617 | ARTHRONAX® w/THEAFLAVINS & APRESFLEX® - 120 veg. caps | 44.00 | 33.00 | | |
| | Buy 4 bottles, price each | 40.00 | 30.00 | | |
| 01618 | ARTHRONAX® ADVANCED w/UC-II® & APRESFLEX® - 60 caps | 36.00 | 27.00 | | |
| | Buy 4 bottles, price each | 32.00 | 24.00 | | |
| 01404 | ARTHRO-IMMUNE JOINT SUPPORT - 60 veg. caps | 32.00 | 24.00 | | |
| | Buy 4 bottles, price each | 28.00 | 21.00 | | |
| 00919 | ARTICHOKE LEAF EXTRACT - 500 mg, 180 veg. caps | 30.00 | 22.50 | | |
| | Buy 4 bottles, price each | 28.00 | 21.00 | | |
| 01533 | ASCORBYL PALMITATE - 500 mg, 100 veg. caps | 22.50 | 16.88 | | |
| | Buy 4 bottles, price each | 20.00 | 15.00 | | |
| 00888 | ASHWAGANDHA EXTRACT (OPTIMIZED) - 60 veg. caps | 10.00 | 7.50 | | |
| | Buy 4 bottles, price each | 9.00 | 6.75 | | |
| 01805 | ASIAN ENERGY BOOST - 90 veg. caps | 24.00 | 18.00 | | |
| | Buy 4 bottles, price each | 22.00 | 16.50 | | |
| 01066 | ASPIRIN - 81 mg, 300 enteric coated tablets | 6.00 | 4.50 | | |
| | Buy 4 bottles, price each | 5.33 | 4.00 | | |
| 01720 | ASTAXANTHIN WITH PHOSPHOLIPIDS - 4 mg, 30 softgels | 16.00 | 12.00 | | |
| | Buy 4 bottles, price each | 14.00 | 10.50 | | |
| B | | | | | |
| 00920 | BENFOTIAMINE w/ THIAMINE - 100 mg, 120 veg. caps | \$19.95 | \$14.96 | | |
| | Buy 4 bottles, price each | 18.60 | 13.95 | | |
| 00925 | BENFOTIAMINE (MEGA) - 250 mg, 120 veg. caps | 30.00 | 22.50 | | |
| | Buy 4 bottles, price each | 27.00 | 20.25 | | |
| 01206 | BERRY COMPLETE - 30 veg. caps | 21.00 | 15.75 | | |
| | Buy 4 bottles, price each | 18.67 | 14.00 | | |

SUB-TOTAL OF COLUMN 1

| No. | | Retail Each | Member Each | Qty | Total |
|--------|--|----------------|----------------|-----|-------|
| 01496 | BERRY COMPLETE w/ACAI (ENHANCED) - 60 veg. caps | \$29.00 | \$21.75 | | |
| | Buy 4 bottles, price each | 26.00 | 19.50 | | |
| 00664 | BETA-CAROTENE - 25,000 IU, 100 softgels | 11.25 | 8.44 | | |
| 01622 | BIFIDO GI BALANCE - 60 veg. caps | 20.00 | 15.00 | | |
| | Buy 4 bottles, price each | 18.00 | 13.50 | | |
| 01073 | BILBERRY EXTRACT - 100 mg, 100 veg. caps | 42.00 | 31.50 | | |
| | Buy 4 bottles, price each | 38.00 | 28.50 | | |
| 01512 | BIOACTIVE MILK PEPTIDES - 30 caps | 18.00 | 13.50 | | |
| | Buy 4 bottles, price each | 16.00 | 12.00 | | |
| 01631 | BIO-COLLAGEN w/PATENTED UC-II® - 40 mg, 60 small caps | 36.00 | 27.00 | | |
| | Buy 4 bottles, price each | 32.00 | 24.00 | | |
| *01006 | BIOSIL™ - 5 mg, 30 veg. caps | 18.95 | 15.16 | | |
| *01007 | BIOSIL™ - 1 fl oz | 31.99 | 25.59 | | |
| 00102 | BIOTIN - 600 mcg, 100 caps | 7.50 | 5.63 | | |
| | Buy 4 bottles, price each | 6.50 | 4.88 | | |
| 01709 | BLACK CUMIN SEED OIL - 60 softgels | 16.00 | 12.00 | | |
| | Buy 4 bottles, price each | 14.00 | 10.50 | | |
| 01710 | BLACK CUMIN SEED OIL w/BIO-CURCUMIN® - 60 softgels | 32.00 | 24.00 | | |
| | Buy 4 bottles, price each | 30.00 | 22.50 | | |
| 01008 | BLAST™ - 600 grams of powder | 26.95 | 20.21 | | |
| 70000 | BLOOD PRESSURE MONITOR - ARM CUFF (medium) | 99.95 | 49.99 | | |
| 70004 | BLOOD PRESSURE MONITOR - WRIST (cuff) | 69.95 | 52.46 | | |
| 01214 | BLUEBERRY EXTRACT - 60 veg. caps | 22.50 | 16.88 | | |
| | Buy 4 bottles, price each | 20.00 | 15.00 | | |
| 01438 | BLUEBERRY EXTRACT w/ POMEGRANATE - 60 veg. caps | 30.00 | 22.50 | | |
| | Buy 4 bottles, price each | 27.00 | 20.25 | | |
| 01506 | BONE FORMULA (DR. STRUM'S INTENSIVE) - 300 caps | 56.00 | 42.00 | | |
| | Buy 4 bottles, price each | 50.00 | 37.50 | | |
| 01726 | BONE RESTORE - 120 caps | 22.00 | 16.50 | | |
| | Buy 4 bottles, price each | 19.00 | 14.25 | | |
| 01727 | BONE RESTORE w/VITAMIN K2 - 120 caps | 24.00 | 18.00 | | |
| | Buy 4 bottles, price each | 22.00 | 16.50 | | |
| 01725 | BONE STRENGTH FORMULA w/KOACT® - 120 caps | 45.00 | 33.75 | | |
| | Buy 4 bottles, price each | 40.00 | 30.00 | | |
| 00313 | BONE-UP® - 240 caps | 28.95 | 21.71 | | |
| | Buy 4 bottles, price each | 27.21 | 20.41 | | |
| 01379 | BOOSTER - 60 softgels | 48.00 | 36.00 | | |
| | Buy 4 bottles, price each | 44.00 | 33.00 | | |
| 01680 | BOOSTER w/ADVANCED K2 COMPLEX (SUPER) - 60 softgels | 42.00 | 31.50 | | |
| | Buy 4 bottles, price each | 38.00 | 28.50 | | |
| 01661 | BORON - 3 mg, 100 veg. caps | 5.95 | 4.46 | | |
| | Buy 4 bottles, price each | 5.25 | 3.94 | | |
| 00202 | BOSWELLA - 100 caps | 38.00 | 28.50 | | |
| | Buy 4 bottles, price each | 30.00 | 22.50 | | |
| 01802 | BRAIN SHIELD® - 60 veg. caps | 33.00 | 24.75 | | |
| | Buy 4 bottles, price each | 30.00 | 22.50 | | |
| 01253 | BRANCHED CHAIN AMINO ACIDS - 90 veg. caps | 19.50 | 14.63 | | |
| | Buy 4 bottles, price each | 17.00 | 12.75 | | |
| 01699 | BREAST HEALTH FORMULA - 60 caps | 34.00 | 25.50 | | |
| | Buy 4 bottles, price each | 30.00 | 22.50 | | |
| 00893 | BRITE EYES III - 2 vials, 5 ml each | 34.00 | 25.50 | | |
| | Buy 4 boxes, price each | 32.00 | 24.00 | | |

SUB-TOTAL OF COLUMN 2

To order online visit: www.LifeExtension.com

Buyers Club Order Form

| No. | | Retail Each | Member Each | Qty | Total |
|----------|---|-------------|-------------|-----|-------|
| 01203 | BROMELAIN (SPECIALLY-COATED) - 500 mg, 60 enteric coated tablets | \$21.00 | \$15.75 | | |
| | Buy 4 bottles, price each | 19.00 | 14.25 | | |
| 00884 | BUTTERBUR EXT. w/STANDARDIZED ROSMARINIC ACID - 60 softgels | 44.00 | 33.00 | | |
| | Buy 4 bottles, price each | 39.60 | 29.70 | | |
| C | | | | | |
| 01653 | CALCIUM CITRATE w/VITAMIN D - 300 caps | \$24.00 | \$18.00 | | |
| | Buy 4 bottles, price each | 21.25 | 15.94 | | |
| 01651 | CALCIUM D-GLUCARATE - 200 mg, 60 veg. caps | 18.00 | 13.50 | | |
| | Buy 4 bottles, price each | 15.00 | 11.25 | | |
| 01693 | CALORIE CONTROL WEIGHT MANAGEMENT FORMULA w/COFFEENIC® GREEN COFFEE EXTRACT Blueberry flavor - 420 grams powder | 60.00 | 45.00 | | |
| | Buy 4 jars, price each | 54.00 | 40.50 | | |
| | Buy 8 jars, price each | 50.00 | 37.50 | | |
| ***01823 | CALREDUCE SELECTIVE FAT BINDER - 120 mint chewable tablets | 45.00 | 33.75 | | |
| | Buy 4 bottles, price each | 38.00 | 28.50 | | |
| 01700 | CARDIO PEAK™ w/STANDARDIZED HAWTHORN & ARJUNA - 120 veg. caps | 36.00 | 27.00 | | |
| | Buy 4 bottles, price each | 32.00 | 24.00 | | |
| 00916 | CARNITINE w/GLYCOCARN® (OPTIMIZED) - 60 veg. caps | 36.00 | 27.00 | | |
| | Buy 4 bottles, price each | 32.00 | 24.00 | | |
| 01532 | L-CARNITINE - 500 mg, 30 veg. caps | 15.00 | 11.25 | | |
| | Buy 4 bottles, price each | 13.20 | 9.90 | | |
| 01258 | CARNOSOOTHE w/PICROPROTECT™ - 60 veg. caps | 29.95 | 22.46 | | |
| | Buy 4 bottles, price each | 27.00 | 20.25 | | |
| 01687 | CARNOSINE (SUPER) - 500 mg, 90 veg. caps | 66.00 | 49.50 | | |
| | Buy 4 bottles, price each | 60.00 | 45.00 | | |
| 01003 | CAT MIX - 100 grams powder | 15.00 | 11.25 | | |
| | Buy 4 jars, price each | 12.00 | 9.00 | | |
| 01891 | CHILDREN'S FORMULA LIFE EXTENSION MIX™ - 100 chewable tablets | 20.00 | 15.00 | | |
| | Buy 4 bottles, price each | 18.00 | 13.50 | | |
| 00550 | CHLORELLA - 500 mg, 200 tablets | 23.50 | 17.63 | | |
| 01571 | CHLOROPHYLLIN - 100 mg, 100 veg. caps | 24.00 | 18.00 | | |
| | Buy 4 bottles, price each | 20.00 | 15.00 | | |
| 01359 | CHO-LESS™ - 90 capsules | 35.00 | 26.25 | | |
| 01477 | CHROMIUM ULTRA - 100 veg. caps | 24.00 | 18.00 | | |
| | Buy 4 bottles, price each | 21.00 | 15.75 | | |
| 01504 | CHROMIUM W/CROMINEX® 3+ (OPTIMIZED) - 500 mcg, 60 veg. caps | 9.00 | 6.75 | | |
| | Buy 4 bottles, price each | 8.00 | 6.00 | | |
| 01503 | CINSULIN® W/INSEA™ AND CROMINEX® 3+ - 90 veg. caps | 38.00 | 28.50 | | |
| | Buy 4 bottles, price each | 34.00 | 25.50 | | |
| 01818 | CITRIMAX® (SUPER) - 180 veg. caps | 40.00 | 30.00 | | |
| | Buy 4 bottles, price each | 38.00 | 28.50 | | |
| 00818 | CLA BLEND w/SESAME LIGNANS (SUPER) - 3,000 mg, 120 softgels | 36.00 | 27.00 | | |
| | Buy 4 bottles, price each | 33.00 | 24.75 | | |
| | Buy 10 bottles, price each | 26.33 | 19.75 | | |
| 00819 | CLA BLEND w/GUARANA & SESAME (SUPER) - 3,000 mg, 120 softgels | 42.00 | 31.50 | | |
| | Buy 4 bottles, price each | 38.33 | 28.75 | | |
| 01707 | COFFEENIC® WEIGHT MANAGEMENT™ w/GREEN COFFEE EXTRACT - 90 veg. caps | 40.00 | 30.00 | | |
| | Buy 4 bottles, price each | 36.00 | 27.00 | | |
| 01896 | COGNITEX® w/BRAIN SHIELD® - 90 softgels | 60.00 | 45.00 | | |
| | Buy 4 bottles, price each | 52.00 | 39.00 | | |
| | Buy 8 bottles, price each | 48.00 | 36.00 | | |

SUB-TOTAL OF COLUMN 3

| No. | | Retail Each | Member Each | Qty | Total |
|-------|---|-------------|-------------|-----|-------|
| 01897 | COGNITEX® w/PREGNENOLONE & BRAIN SHIELD® - 90 softgels | \$62.00 | \$46.50 | | |
| | Buy 4 bottles, price each | 53.00 | 39.75 | | |
| | Buy 8 bottles, price each | 50.00 | 37.50 | | |
| 01421 | COGNITEX® BASICS - 60 softgels | 38.00 | 28.50 | | |
| | Buy 4 bottles, price each | 35.00 | 26.25 | | |
| | Buy 12 bottles, price each | 32.00 | 24.00 | | |
| 01659 | COGNIZIN® CDP CHOLINE CAPS - 250 mg, 60 veg. caps | 36.00 | 27.00 | | |
| | Buy 4 bottles, price each | 34.00 | 25.50 | | |
| 01735 | COMPLETE B-COMPLEX - 60 veg. caps | 10.00 | 7.50 | | |
| | Buy 4 bottles, price each | 9.00 | 6.75 | | |
| 01798 | COMPREHENSIVE NUTRIENT PACKS ADVANCED - 30 packs | 90.00 | 67.50 | | |
| | Buy 4 boxes, price each | 82.00 | 61.50 | | |
| 00119 | COPPER CAPSULES - 2 mg, 100 caps | 9.91 | 7.43 | | |
| 00949 | COQ10 w/ α-LIMONENE (SUPER-ABSORBABLE) - 50 mg, 60 softgels | 25.00 | 18.75 | | |
| | Buy 4 bottles, price each | 22.00 | 16.50 | | |
| | Buy 10 bottles, price each | 20.00 | 15.00 | | |
| 00950 | COQ10 w/ α-LIMONENE (SUPER-ABSORBABLE) - 100 mg, 100 softgels | 66.00 | 49.50 | | |
| | Buy 4 bottles, price each | 60.00 | 45.00 | | |
| | Buy 10 bottles, price each | 56.00 | 42.00 | | |
| 01226 | COQ10 (SUPER-UBIQUINOL) - 100 mg, 60 softgels | 56.00 | 42.00 | | |
| | Buy 4 bottles, price each | 52.00 | 39.00 | | |
| | Buy 10 bottles, price each | 48.00 | 36.00 | | |
| 01733 | COQ10 w/BIOPQQ® (SUPER UBIQUINOL) - 100 mg, 30 softgels | 54.00 | 40.50 | | |
| | Buy 4 bottles, price each | 50.00 | 37.50 | | |
| | Buy 10 bottles, price each | 46.00 | 34.50 | | |
| 01426 | COQ10 w/ENH MITOCHONDRIAL SUPPORT™ (SUPER UBIQUINOL) - 100 mg, 60 softgels | 62.00 | 46.50 | | |
| | Buy 4 bottles, price each | 56.00 | 42.00 | | |
| | Buy 10 bottles, price each | 52.00 | 39.00 | | |
| 01425 | COQ10 w/ENH MITOCHONDRIAL SUPPORT™ (SUPER UBIQUINOL) - 50 mg, 100 softgels | 58.00 | 43.50 | | |
| | Buy 4 bottles, price each | 53.00 | 39.75 | | |
| | Buy 10 bottles, price each | 50.00 | 37.50 | | |
| 01427 | COQ10 w/ENH MITOCHONDRIAL SUPPORT™ (SUPER UBIQUINOL) - 50 mg, 30 softgels | 20.00 | 15.00 | | |
| | Buy 4 bottles, price each | 18.00 | 13.50 | | |
| 01431 | COQ10 w/ENH MITOCHONDRIAL SUPPORT™ (SUPER UBIQUINOL) - 200 mg, 30 softgels | 62.00 | 46.50 | | |
| | Buy 4 bottles, price each | 56.00 | 42.00 | | |
| | Buy 10 bottles, price each | 52.00 | 39.00 | | |
| 01053 | CORIOLUS SUPER STRENGTH - 600 mg, 150 veg. caps | 99.95 | 74.96 | | |
| 80154 | COSMESIS LIGHTENING CREAM - 1 oz jar | 65.00 | 48.75 | | |
| | Buy 2 bottles, price each | 57.00 | 42.75 | | |
| 80152 | COSMESIS ADVANCED TRIPLE PEPTIDE SERUM - 1 oz bottle | 65.00 | 48.75 | | |
| | Buy 2 bottles, price each | 57.00 | 42.75 | | |
| 80140 | COSMESIS ADVANCED UNDER EYE SERUM w/STEM CELLS - .33 oz | 49.00 | 36.75 | | |
| | Buy 2 bottles, price each | 42.00 | 31.50 | | |
| 80139 | COSMESIS AMBER SELF MICRODERMABRASION - 2 oz | 49.00 | 36.75 | | |
| | Buy 2 jars, price each | 42.00 | 31.50 | | |
| 80118 | COSMESIS ANTI-AGING MASK - 2 oz | 72.00 | 54.00 | | |
| | Buy 2 bottles, price each | 63.36 | 47.52 | | |
| 80151 | COSMESIS ANTI-AGING REJUVENATING FACE CREAM - 2 oz jar | 65.00 | 48.75 | | |
| | Buy 2 jars, price each | 57.00 | 42.75 | | |
| 80153 | COSMESIS ANTI-AGING REJUVENATING SCALP SERUM - 2 oz bottle | 46.00 | 34.50 | | |
| | Buy 2 bottles, price each | 39.00 | 29.25 | | |
| 80134 | COSMESIS ANTI-GLYCATION SERUM - 1 oz W/BLEBERRY & POMEGRANATE EXTRACTS | 33.00 | 24.75 | | |
| | Buy 2 bottles, price each | 31.35 | 23.51 | | |

SUB-TOTAL OF COLUMN 4

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

OCTOBER 2014

Buyers Club Order Form

To order call: 1.954.766.8433 or 1.800.544.4440

| No. | | Retail Each | Member Each | Qty | Total |
|--------------------|--|----------------|----------------|-----|-------|
| C CONTINUED | | | | | |
| 80133 | COSMESIS ANTIOXIDANT FACIAL MIST - 2 oz | \$32.00 | \$24.00 | | |
| | Buy 2 bottles, price each | 30.40 | 22.80 | | |
| 80127 | COSMESIS ANTIOXIDANT REJUVENATING FOOT CREAM - 2 oz | 45.00 | 33.75 | | |
| | Buy 2 jars, price each | 42.80 | 32.10 | | |
| 80128 | COSMESIS ANTIOXIDANT REJUVENATING FOOT SCRUB - 2 oz | 59.00 | 44.25 | | |
| | Buy 2 jars, price each | 51.92 | 38.94 | | |
| 80117 | COSMESIS ANTIOXIDANT REJUVENATING HAND CREAM - 2 oz | 64.00 | 48.00 | | |
| | Buy 2 jars, price each | 57.49 | 43.12 | | |
| 80121 | COSMESIS ANTIOXIDANT REJUVENATING HAND SCRUB - 2 oz | 58.00 | 43.50 | | |
| | Buy 2 jars, price each | 51.04 | 38.28 | | |
| 80105 | COSMESIS ANTI-REDNESS & ADULT BLEMISH LOTION - 1 oz | 74.50 | 55.88 | | |
| | Buy 2 bottles, price each | 65.56 | 49.17 | | |
| 80147 | COSMESIS BIOFLAVONOID CREAM - 1 oz jar | 46.00 | 34.50 | | |
| | Buy 2 jars, price each | 39.00 | 29.25 | | |
| 80144 | COSMESIS BROCCOLI SPROUT CREAM - 1 oz | 46.00 | 34.50 | | |
| | Buy 2 jars, price each | 39.00 | 29.25 | | |
| 80120 | COSMESIS CORRECTIVE CLEARING MASK - 2 oz | 64.50 | 48.38 | | |
| | Buy 2 jars, price each | 56.76 | 42.57 | | |
| 80141 | COSMESIS DNA REPAIR CREAM - 1 oz jar | 49.00 | 36.75 | | |
| | Buy 2 jars, price each | 42.00 | 31.50 | | |
| 80108 | COSMESIS ESSENTIAL PLANT LIPIDS REPARATIVE SERUM - 1 oz | 74.95 | 56.21 | | |
| | Buy 2 bottles, price each | 65.95 | 49.46 | | |
| 80123 | COSMESIS FACE REJUVENATING ANTIOXIDANT CREAM - 2 oz | 69.50 | 52.13 | | |
| | Buy 2 jars, price each | 61.16 | 45.87 | | |
| 80107 | COSMESIS FINE LINE-LESS - 1 oz | 74.50 | 55.88 | | |
| | Buy 2 bottles, price each | 65.56 | 49.17 | | |
| 80131 | COSMESIS HAIR SUPPRESS FORMULA - 4 oz | 59.00 | 44.25 | | |
| | Buy 2 bottles, price each | 51.92 | 38.94 | | |
| 80137 | COSMESIS HEALING FORMULA ALL-IN-ONE CREAM - 1 oz | 53.00 | 39.75 | | |
| | Buy 2 jars, price each | 45.43 | 34.07 | | |
| 80115 | COSMESIS HEALING MASK - 2 oz | 64.50 | 48.38 | | |
| | Buy 2 bottles, price each | 56.76 | 42.57 | | |
| 80102 | COSMESIS HEALING VITAMIN K CREAM - 1 oz | 79.50 | 59.63 | | |
| | Buy 2 bottles, price each | 69.96 | 52.47 | | |
| 80109 | COSMESIS HYALURONIC FACIAL MOISTURIZER - 1 oz | 58.00 | 43.50 | | |
| | Buy 2 bottles, price each | 51.04 | 38.28 | | |
| 80110 | COSMESIS HYALURONIC OIL-FREE FACIAL MOISTURIZER - 1 oz | 58.00 | 43.50 | | |
| | Buy 2 bottles, price each | 51.04 | 38.28 | | |
| 80138 | COSMESIS HYDRATING ANTIOXIDANT FACE MIST - 4 oz | 39.95 | 29.96 | | |
| | Buy 2 bottles, price each | 38.00 | 28.50 | | |
| 80103 | COSMESIS LIFTING & TIGHTENING COMPLEX - 1 oz | 74.50 | 55.88 | | |
| | Buy 2 tubes, price each | 65.56 | 49.17 | | |
| 80146 | COSMESIS LYCOPENE CREAM - 1 oz jar | 28.00 | 21.00 | | |
| | Buy 2 jars, price each | 25.40 | 19.05 | | |
| 80135 | COSMESIS MELATONIN CREAM - 1 oz | 33.00 | 24.75 | | |
| | Buy 2 jars, price each | 27.10 | 20.33 | | |
| 80114 | COSMESIS MILD FACIAL CLEANSER - 8 oz | 59.00 | 44.25 | | |
| | Buy 2 bottles, price each | 51.92 | 38.94 | | |
| 80122 | COSMESIS NECK REJUVENATING ANTIOXIDANT CREAM - 2 oz | 64.00 | 48.00 | | |
| | Buy 2 jars, price each | 56.32 | 42.24 | | |
| 80111 | COSMESIS PIGMENT CORRECTING CREAM - 1/2 oz | 74.00 | 55.50 | | |
| | Buy 2 bottles, price each | 65.12 | 48.84 | | |

SUB-TOTAL OF COLUMN 5

OCTOBER 2014

| No. | | Retail Each | Member Each | Qty | Total |
|----------|---|----------------|----------------|-----|-------|
| 80106 | COSMESIS REJUVENATING SERUM - 1 oz | \$74.50 | \$55.88 | | |
| | Buy 2 bottles, price each | 65.56 | 49.17 | | |
| 80150 | COSMESIS RENEWING EYE CREAM - 1/2 oz | 65.00 | 48.75 | | |
| | Buy 2 jars, price each | 57.00 | 42.75 | | |
| 80142 | COSMESIS RESVERATROL ANTI-OXIDANT SERUM - 1 oz | 46.00 | 34.50 | | |
| | Buy 2 bottles, price each | 39.00 | 29.25 | | |
| 80112 | COSMESIS SKIN LIGHTENING SERUM - 1/2 oz | 85.00 | 63.75 | | |
| | Buy 2 bottles, price each | 74.80 | 56.10 | | |
| 80130 | COSMESIS SKIN STEM CELL SERUM - 1 oz | 74.00 | 55.50 | | |
| | Buy 2 bottles, price each | 69.00 | 51.75 | | |
| 80143 | COSMESIS STEM CELL CREAM W/ALPINE ROSE - 1 oz jar | 66.00 | 49.50 | | |
| | Buy 2 jars, price each | 58.00 | 43.50 | | |
| 80148 | COSMESIS TIGHTENING & FIRMING NECK CREAM - 2 oz jar | 39.00 | 29.25 | | |
| | Buy 2 jars, price each | 35.00 | 26.25 | | |
| 80116 | COSMESIS ULTRA LIP PLUMPER - 1/3 oz | 64.00 | 48.00 | | |
| | Buy 2 bottles, price each | 56.32 | 42.24 | | |
| 80101 | COSMESIS ULTRA WRINKLE RELAXER - 1 oz | 89.95 | 67.46 | | |
| | Buy 2 bottles, price each | 79.76 | 59.82 | | |
| 80113 | COSMESIS UNDER EYE REFINING SERUM - 1/2 oz | 74.50 | 55.88 | | |
| | Buy 2 bottles, price each | 65.56 | 49.17 | | |
| 80104 | COSMESIS UNDER EYE RESCUE CREAM - 1/2 oz | 74.50 | 55.88 | | |
| | Buy 2 bottles, price each | 65.56 | 49.17 | | |
| 80129 | COSMESIS VITAMIN C SERUM - 1 oz | 85.00 | 63.75 | | |
| | Buy 2 bottles, price each | 74.80 | 56.10 | | |
| 80136 | COSMESIS VITAMIN D LOTION - 4 oz | 36.00 | 27.00 | | |
| | Buy 2 bottles, price each | 33.66 | 25.25 | | |
| 80145 | COSMESIS VITAMIN E-ESSENTIAL CREAM - 1 oz | 28.00 | 21.00 | | |
| | Buy 2 jars, price each | 26.00 | 19.50 | | |
| 80149 | COSMESIS YOUTH SERUM - 1 oz | 65.00 | 48.75 | | |
| | Buy 2 bottles, price each | 57.00 | 42.75 | | |
| 00862 | CRAN-MAX® - 500 mg, 60 veg. caps | 17.50 | 13.13 | | |
| | Buy 4 bottles, price each | 15.00 | 11.25 | | |
| 01424 | CRAN-MAX® with UTI-ROSE™ (OPTIMIZED) - 60 veg. caps | 18.00 | 13.50 | | |
| | Buy 4 bottles, price each | 16.00 | 12.00 | | |
| 01529 | CREATINE CAPSULES - 120 veg. caps | 10.95 | 8.21 | | |
| | Buy 4 bottles, price each | 9.25 | 6.94 | | |
| 01746 | CREATINE WHEY GLUTAMINE POWDER - 454 grams (vanilla) | 30.00 | 22.50 | | |
| | Buy 4 jars, price each | 27.00 | 20.25 | | |
| 01429 | CR MIMETIC LONGEVITY FORMULA - 60 veg. caps | 39.00 | 29.25 | | |
| | Buy 4 bottles, price each | 36.00 | 27.00 | | |
| *33840 | CRWAY GREAT GLUCOSE CONTROL CD | 98.00 | 82.00 | | |
| **CRWAY | CR WAY OPTIMAL HEALTH PROGRAM SOFTWARE | 195.00 | 195.00 | | |
| 00407 | CURCUMIN® (SUPER BIO) - 400 mg, 60 veg. caps | 38.00 | 28.50 | | |
| | Buy 4 bottles, price each | 35.00 | 26.25 | | |
| 01808 | CURCUMIN® w/GINGER & TURMERONES (ADVANCED BIO)-30 softgels | 30.00 | 22.50 | | |
| | Buy 4 bottles, price each | 27.00 | 20.25 | | |
| 01804 | CYTOKINE SUPPRESS™ w/EGCG - 30 veg. caps | 30.00 | 22.50 | | |
| | Buy 4 bottles, price each | 27.00 | 20.25 | | |
| D | | | | | |
| 00658 | 7-KETO® DHEA METABOLITE - 25 mg, 100 caps | \$28.00 | \$21.00 | | |
| | Buy 4 bottles, price each | 24.00 | 18.00 | | |
| 01479 | 7-KETO® DHEA METABOLITE - 100 mg, 60 veg. caps | 40.00 | 30.00 | | |
| | Buy 4 bottles, price each | 36.00 | 27.00 | | |

SUB-TOTAL OF COLUMN 6

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

| No. | | Retail Each | Member Each | Qty | Total |
|----------|--|----------------|----------------|-----|-------|
| 01640 | DHA (VEGETARIAN SOURCED) - 30 veg. softgels | \$20.00 | \$15.00 | | |
| | Buy 4 bottles, price each | 18.00 | 13.50 | | |
| 00607 | DHEA - 25 mg, 100 tablets (dissolve in mouth) | 14.00 | 10.50 | | |
| | Buy 4 bottles, price each | 11.75 | 8.81 | | |
| 01478 | DHEA COMPLETE - 60 veg. caps | 48.00 | 36.00 | | |
| | Buy 4 bottles, price each | 43.20 | 32.40 | | |
| 00335 | DHEA - 25 mg, 100 caps | 18.00 | 13.50 | | |
| | Buy 4 bottles, price each | 15.00 | 11.25 | | |
| 00454 | DHEA - 15 mg, 100 caps | 14.00 | 10.50 | | |
| | Buy 4 bottles, price each | 12.00 | 9.00 | | |
| 00882 | DHEA - 50 mg, 60 caps | 19.00 | 14.25 | | |
| | Buy 4 bottles, price each | 17.00 | 12.75 | | |
| 01689 | DHEA - 100 mg, 60 veg. caps | 24.00 | 18.00 | | |
| | Buy 4 bottles, price each | 22.00 | 16.50 | | |
| 01358 | DIGEST RC - 30 tablets | 19.95 | 14.96 | | |
| | Buy 4 boxes, price each | 17.00 | 12.75 | | |
| 01272 | DIGESTIVE ENZYMES (ENHANCED SUPER) - 100 veg. caps | 18.95 | 14.21 | | |
| | Buy 4 bottles, price each | 16.00 | 12.00 | | |
| 01671 | D,L-PHENYLALANINE CAPSULES - 500 mg, 100 veg. caps | 18.75 | 14.06 | | |
| | Buy 4 bottles, price each | 16.00 | 12.00 | | |
| 01540 | DMAE BITARTRATE - 150 mg, 200 veg. caps | 18.00 | 13.50 | | |
| | Buy 4 bottles, price each | 15.00 | 11.25 | | |
| 00059 | DMG - 125 mg, 60 tablets | 24.80 | 18.60 | | |
| | Buy 4 boxes, price each | 22.69 | 17.02 | | |
| 01570 | DNA PROTECTION FORMULA - 60 veg. caps | 34.00 | 25.50 | | |
| | Buy 4 bottles, price each | 32.00 | 24.00 | | |
| 00544 | DOG MIX - 100 grams powder | 19.50 | 14.63 | | |
| | Buy 4 jars, price each | 16.00 | 12.00 | | |
| 00321 | DR. PROCTOR'S ADVANCED HAIR FORMULA - 2 oz | 39.95 | 29.96 | | |
| | Buy 4 bottles, price each | 32.00 | 24.00 | | |
| 00320 | DR. PROCTOR'S HAIR FORMULA SHAMPOO - 8 oz | 24.95 | 18.71 | | |
| | Buy 4 bottles, price each | 22.00 | 16.50 | | |
| 00899 | DUAL-ACTION MICRODERMABRASION ADV. EXFOLIATE - 2.4 oz | 39.95 | 29.96 | | |
| | Buy 4 jars, price each | 38.95 | 29.21 | | |
| E | | | | | |
| 01528 | ECHINACEA EXTRACT - 250 mg, 60 veg. caps | \$14.35 | \$10.76 | | |
| | Buy 4 bottles, price each | 12.50 | 9.38 | | |
| 01498 | ENDOTHELIAL DEFENSE™ w/FULL-SPECTRUM POMEGRANATE™ - 60 softgels | 56.00 | 42.00 | | |
| | Buy 4 bottles, price each | 52.00 | 39.00 | | |
| 00997 | ENDOTHELIAL DEFENSE™ w/GLISODIN® - 60 veg. caps | 54.00 | 40.50 | | |
| | Buy 4 bottles, price each | 48.00 | 36.00 | | |
| 00625 | EPA/DHA (MEGA) - 120 softgels | 19.95 | 14.96 | | |
| | Buy 4 bottles, price each | 18.00 | 13.50 | | |
| 01737 | ESOPHAGEAL GUARDIAN (Berry flavor) - 60 chewable tablets | 36.00 | 27.00 | | |
| | Buy 4 bottles, price each | 32.00 | 24.00 | | |
| 01042 | EUROPEAN LEG SOLUTION DIOSMIN 95 - 600 mg, 30 veg. tabs | 20.00 | 15.00 | | |
| | Buy 4 bottles, price each | 18.00 | 13.50 | | |
| 01706 | EXTRAORDINARY ENZYMES - 60 caps | 26.00 | 19.50 | | |
| | Buy 4 bottles, price each | 24.00 | 18.00 | | |
| 01514 | EYE PRESSURE SUPPORT w/MIRTOGENOL® - 30 veg. caps | 38.00 | 28.50 | | |
| | Buy 4 bottles, price each | 34.00 | 25.50 | | |

SUB-TOTAL OF COLUMN 7

| No. | | Retail Each | Member Each | Qty | Total |
|----------|---|----------------|----------------|-----|-------|
| F | | | | | |
| 01054 | FACE MASTER® PLATINUM | \$199.00 | \$199.00 | | |
| 00965 | FAST-ACTING JOINT FORMULA - 30 caps | 39.00 | 29.25 | | |
| | Buy 4 bottles, price each | 36.00 | 27.00 | | |
| 01717 | FAST-C® w/DIHYDROQUERCETIN - 120 veg. tabs | 26.00 | 19.50 | | |
| | Buy 4 bottles, price each | 24.00 | 18.00 | | |
| 20053 | FEM DOPHILUS® - 30 caps | 25.95 | 19.46 | | |
| 20055 | FEM DOPHILUS® - 60 caps | 39.95 | 29.96 | | |
| 01064 | FEMMENESSENCE MACAPAUSE® - 120 veg. caps | 34.99 | 26.24 | | |
| 01728 | FERNBLOCK® w/RED ORANGE COMPLEX (ENHANCED) - 30 veg. caps | 42.00 | 31.50 | | |
| | Buy 4 bottles, price each | 38.00 | 28.50 | | |
| 01670 | FIBER FOOD CAPS - 200 veg. caps | 16.00 | 12.00 | | |
| | Buy 4 bottles, price each | 14.00 | 10.50 | | |
| | Buy 10 bottles, price each | 13.00 | 9.75 | | |
| 00718 | FIBRINOGEN RESIST™ - 30 veg. caps | 49.00 | 36.75 | | |
| | Buy 4 bottles, price each | 44.00 | 33.00 | | |
| 01749 | FLAX SEED (ORGANIC GOLDEN GROUND) - 14 oz. | 11.67 | 8.75 | | |
| 01821 | FLORASSIST® HEART HEALTH PROBIOTIC - 60 caps | 32.00 | 24.00 | | |
| | Buy 4 bottles, price each | 28.00 | 21.00 | | |
| 01825 | FLORASSIST® PROBIOTIC - 30 liquid caps | 32.00 | 24.00 | | |
| | Buy 4 bottles, price each | 28.00 | 21.00 | | |
| 01439 | FOLATE (OPTIMIZED) (L-METHYL FOLATE) 1,000 mcg - 100 veg. caps | 28.00 | 21.00 | | |
| | Buy 4 bottles, price each | 25.00 | 18.75 | | |
| 01641 | FOLIC ACID + B12 CAPSULES - 200 veg. caps | 10.50 | 7.88 | | |
| | Buy 4 bottles, price each | 9.50 | 7.13 | | |
| 01544 | FORSKOLIN - 10 mg, 60 veg. caps | 16.00 | 12.00 | | |
| | Buy 4 bottles, price each | 14.00 | 10.50 | | |
| 01513 | FUCOIDAN w/MARITECH® 926 (OPTIMIZED) - 60 veg. caps | 36.00 | 27.00 | | |
| | Buy 4 bottles, price each | 33.00 | 24.75 | | |
| 00993 | FUCOXANTHIN-SLIM™ - 90 softgels | 44.00 | 33.00 | | |
| | Buy 4 bottles, price each | 39.00 | 29.25 | | |
| G | | | | | |
| 00559 | GAMMA E TOCOPHEROL/TOCOTRIENOLS - 60 softgels | \$42.00 | \$31.50 | | |
| | Buy 4 bottles, price each | 37.00 | 27.75 | | |
| 00759 | GAMMA E TOCOPHEROL w/SESAME LIGNANS - 60 softgels | 32.00 | 24.00 | | |
| | Buy 4 bottles, price each | 29.00 | 21.75 | | |
| 01394 | (OPTIMIZED) GARLIC - 200 veg. caps | 24.95 | 18.71 | | |
| | Buy 4 bottles, price each | 21.00 | 15.75 | | |
| 01301 | GH PITUITARY SUPPORT DAY FORMULA - 120 tabs | 48.00 | 36.00 | | |
| | Buy 4 bottles, price each | 44.00 | 33.00 | | |
| 01302 | GH PITUITARY SUPPORT NIGHT FORMULA - 120 veg. caps | 25.00 | 18.75 | | |
| | Buy 4 bottles, price each | 22.50 | 16.88 | | |
| ***01228 | GINGER FORCE® - 60 softgels | 31.95 | 23.96 | | |
| 01658 | GINKGO BILOBA CERTIFIED EXTRACT™ - 120 mg, 365 veg. caps | 46.00 | 34.50 | | |
| | Buy 2 bottles, price each | 43.50 | 32.63 | | |
| 01648 | GINKGO EXTRACT 28/7 (SUPER) - 120 mg, 100 veg. caps | 29.00 | 21.75 | | |
| | Buy 4 bottles, price each | 26.50 | 19.88 | | |
| 00756 | GLA WITH SESAME LIGNANS (MEGA) - 60 softgels | 19.50 | 14.63 | | |
| | Buy 4 bottles, price each | 18.00 | 13.50 | | |
| 00345 | (L) GLUTAMINE CAPSULES - 500 mg, 100 caps | 14.95 | 11.21 | | |
| | Buy 4 bottles, price each | 13.50 | 10.13 | | |
| 00141 | (L)-GLUTAMINE POWDER - 100 grams | 22.00 | 16.50 | | |
| | Buy 4 bottles, price each | 20.00 | 15.00 | | |

SUB-TOTAL OF COLUMN 8

Buyers Club Order Form

To order call: 1.954.766.8433 or 1.800.544.4440

| No. | | Retail Each | Member Each | Qty | Total |
|--------------------|--|----------------|----------------|-----|-------|
| G CONTINUED | | | | | |
| 00522 | GLUCOSAMINE/CHONDROITIN CAPSULES - 100 caps | \$38.00 | \$28.50 | | |
| | Buy 4 bottles, price each | 32.00 | 24.00 | | |
| 01541 | GLUTATHIONE, CYSTEINE & C - 100 veg. caps | 20.00 | 15.00 | | |
| | Buy 4 bottles, price each | 18.00 | 13.50 | | |
| 00314 | L-GLUTATHIONE (MEGA) - 250 mg, 60 caps | 39.64 | 29.73 | | |
| 01731 | GLYCEMICPRO™ TRANSGLUCOSIDASE - 60 veg. caps | 48.00 | 36.00 | | |
| | Buy 4 bottles, price each | 42.00 | 31.50 | | |
| 01669 | GLYCINE - 1,000 mg, 100 veg. caps | 12.00 | 9.00 | | |
| | Buy 4 bottles, price each | 10.80 | 8.10 | | |
| 01091 | GRAPE EXTRACT w/RESVERATROL (WHOLE) - 60 veg. caps | 36.00 | 27.00 | | |
| | Buy 4 bottles, price each | 34.00 | 25.50 | | |
| 01411 | GRAPE SEED EXTRACT w/RESVERATROL & PTEROSTILBENE - 100 mg, 60 veg. caps | 36.00 | 27.00 | | |
| | Buy 4 bottles, price each | 34.00 | 25.50 | | |
| 01604 | GREEN COFFEE EXTRACT COFFEEGENIC® - 200 mg, 90 veg. caps | 22.00 | 16.50 | | |
| | Buy 4 bottles, price each | 20.00 | 15.00 | | |
| 01620 | GREEN COFFEE EXTRACT COFFEEGENIC® - 400 mg, 90 veg. caps | 32.00 | 24.00 | | |
| | Buy 4 bottles, price each | 28.00 | 21.00 | | |
| 00953 | GREEN TEA EXTRACT (MEGA) - lightly caffeinated - 100 veg. caps | 30.00 | 22.50 | | |
| | Buy 4 bottles, price each | 24.00 | 18.00 | | |
| 00954 | GREEN TEA EXTRACT (MEGA) - decaffeinated - 100 veg. caps | 30.00 | 22.50 | | |
| | Buy 4 bottles, price each | 24.00 | 18.00 | | |
| 01545 | GUTSY CHEWY DIGESTIVE (CITRUS FLAVOR) - 8 tablets | 11.50 | 8.63 | | |
| 01546 | GUTSY CHEWY DIGESTIVE (WILD BERRY FLAVOR) - 8 tablets | 11.50 | 8.63 | | |
| H | | | | | |
| 01074 | 5 HTP - 100 mg, 60 caps | \$27.95 | \$20.96 | | |
| 01738 | HCA (GARCINIA) - 90 veg. caps | 17.00 | 12.75 | | |
| | Buy 4 bottles, price each | 15.00 | 11.25 | | |
| 01393 | HEPATOPRO - 900 mg, 60 softgels | 50.00 | 37.50 | | |
| | Buy 4 bottles, price each | 46.00 | 34.50 | | |
| 01435 | HOMOCYSTEINE RESIST - 100 veg caps | 24.00 | 18.00 | | |
| | Buy 4 bottles, price each | 21.60 | 16.20 | | |
| 01527 | HUPERZINE A - 200 mcg, 60 veg caps | 40.00 | 30.00 | | |
| | Buy 4 bottles, price each | 36.00 | 27.00 | | |
| 00661 | HYDRODERM® - 1 oz | 79.95 | 59.96 | | |
| | Buy 2 bottles, price each | 65.33 | 49.00 | | |
| I | | | | | |
| *01060 | i26® HYPERIMMUNE EGG - 140 grams powder | \$54.99 | \$46.75 | | |
| 01704 | IMMUNE MODULATOR W/TINOFEND® - 60 veg. caps | 17.00 | 12.75 | | |
| | Buy 4 bottles, price each | 15.00 | 11.25 | | |
| 00955 | IMMUNE PROTECT W/PARACTIN® - 30 veg. caps | 29.50 | 22.13 | | |
| | Buy 4 bottles, price each | 26.55 | 19.91 | | |
| 01049 | INNERPOWER™ - 530 grams powder | 42.00 | 31.50 | | |
| 01674 | INOSITOL CAPSULES - 1,000 mg, 360 veg. caps | 62.00 | 46.50 | | |
| | Buy 4 bottles, price each | 58.00 | 43.50 | | |
| 01292 | INTEGRA-LEAN® AFRICAN MANGO IRVINGIA - 150 mg, 60 veg. caps | 28.00 | 21.00 | | |
| | Buy 4 bottles, price each | 24.00 | 18.00 | | |
| 01677 | IRON PROTEIN PLUS - 300 mg, 100 caps | 28.00 | 21.00 | | |
| | Buy 4 bottles, price each | 26.00 | 19.50 | | |
| 01492 | IRVINGIA W/PHASE 3™ - 120 veg. caps | 56.00 | 42.00 | | |
| | CALORIE CONTROL COMPLEX (OPTIMIZED AFRICAN MANGO) | | | | |
| | Buy 4 bottles, price each | 48.00 | 36.00 | | |

SUB-TOTAL OF COLUMN 9

OCTOBER 2014

| No. | | Retail Each | Member Each | Qty | Total |
|-------------|--|----------------|----------------|-----|-------|
| J, K | | | | | |
| 00056 | JARRO-DOPHILUS EPS™ - 60 veg. caps | \$22.95 | \$17.21 | | |
| 01759 | JARRO-DOPHILUS EPS™ - 30 caps | 39.95 | 29.96 | | |
| 01724 | K w/ADVANCED K2 COMPLEX (SUPER) - 90 softgels | 30.00 | 22.50 | | |
| | Buy 4 bottles, price each | 27.00 | 20.25 | | |
| 01600 | KRILL HEALTHY JOINT FORMULA - 30 softgels | 32.00 | 24.00 | | |
| | Buy 4 bottles, price each | 29.00 | 21.75 | | |
| 01050 | KRILL OIL PHOSPHOMEGA™ - 60 softgels | 33.95 | 25.46 | | |
| 00316 | KYOLIC® GARLIC FORMULA 102 - 200 veg. caps | 26.45 | 19.84 | | |
| 00214 | KYOLIC® GARLIC FORMULA 105 - 200 caps | 27.45 | 20.59 | | |
| 00789 | KYOLIC® RESERVE - 600 mg, 120 caps | 27.95 | 20.96 | | |
| L | | | | | |
| 01681 | LACTOFERRIN (APOLACTOFERRIN) CAPS - 60 caps | \$52.00 | \$39.00 | | |
| | Buy 4 bottles, price each | 48.00 | 36.00 | | |
| 00020 | LECITHIN - 16 oz. granules | 15.00 | 11.25 | | |
| | Buy 4 jars, price each | 12.50 | 9.38 | | |
| 01855 | LIFE EXTENSION MIX™ - 315 tablets | 98.00 | 73.50 | | |
| | Buy 4 bottles, price each | 86.00 | 64.50 | | |
| | Buy 10 bottles, price each | 69.50 | 52.13 | | |
| 01857 | LIFE EXTENSION MIX™ W/EXTRA NIACIN - 315 tablets | 98.00 | 73.50 | | |
| | Buy 4 bottles, price each | 86.00 | 64.50 | | |
| | Buy 10 bottles, price each | 69.50 | 52.13 | | |
| 01854 | LIFE EXTENSION MIX™ - 490 caps | 110.00 | 82.50 | | |
| | Buy 4 bottles, price each | 98.00 | 73.50 | | |
| | Buy 10 bottles, price each | 85.00 | 63.75 | | |
| 01856 | LIFE EXTENSION MIX™ POWDER - 14.81 oz | 98.00 | 73.50 | | |
| | Buy 4 bottles, price each | 86.00 | 64.50 | | |
| | Buy 10 bottles, price each | 72.00 | 54.00 | | |
| 01865 | LIFE EXTENSION MIX™ - 315 tablets w/o copper | 98.00 | 73.50 | | |
| | Buy 4 bottles, price each | 86.00 | 64.50 | | |
| | Buy 10 bottles, price each | 69.50 | 52.13 | | |
| 01867 | LIFE EXTENSION MIX™ W/EXTRA NIACIN 315 tablets w/o copper | 98.00 | 73.50 | | |
| | Buy 4 bottles, price each | 86.00 | 64.50 | | |
| | Buy 10 bottles, price each | 69.50 | 52.13 | | |
| 01864 | LIFE EXTENSION MIX™ - 490 caps w/o copper | 110.00 | 82.50 | | |
| | Buy 4 bottles, price each | 98.00 | 73.50 | | |
| | Buy 10 bottles, price each | 85.00 | 63.75 | | |
| 01866 | LIFE EXTENSION MIX™ POWDER - 14.81 oz w/o copper | 98.00 | 73.50 | | |
| | Buy 4 bottles, price each | 86.00 | 64.50 | | |
| | Buy 10 bottles, price each | 72.00 | 54.00 | | |
| 01608 | LIVER EFFICIENCY FORMULA - 30 veg. caps | 18.00 | 13.50 | | |
| | Buy 4 bottles, price each | 16.00 | 12.00 | | |
| 01639 | 5-LOX INHIBITOR W/APRESFLEX® - 100 mg, 60 veg. caps | 22.00 | 16.50 | | |
| | Buy 4 bottles, price each | 20.00 | 15.00 | | |
| 01678 | L-LYSINE - 620 mg, 100 veg. caps | 9.00 | 6.75 | | |
| | Buy 4 bottles, price each | 8.00 | 6.00 | | |
| 00455 | LYCOPENE EXTRACT (MEGA) - 15 mg, 90 softgels | 35.00 | 26.25 | | |
| | Buy 4 bottles, price each | 30.00 | 22.50 | | |
| M | | | | | |
| 01885 | MACUGUARD™ OCULAR SUPPORT - 60 softgels | \$22.00 | \$16.50 | | |
| | Buy 4 bottles, price each | 19.80 | 14.85 | | |
| 01886 | MACUGUARD™ OCULAR SUPPORT w/ASTAXANTHIN - 60 softgels | 42.00 | 31.50 | | |
| | Buy 4 bottles, price each | 38.00 | 28.50 | | |

SUB-TOTAL OF COLUMN 10

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

To order online visit: www.LifeExtension.com

| No. | | Retail Each | Member Each | Qty | Total |
|-------|---|----------------|----------------|-----|-------|
| 01459 | MAGNESIUM CAPS - 500 mg, 100 veg. caps | \$12.00 | \$9.00 | | |
| | Buy 4 bottles, price each | 10.00 | 7.50 | | |
| 01682 | MAGNESIUM CITRATE - 160 mg, 100 veg. caps | 9.00 | 6.75 | | |
| | Buy 4 bottles, price each | 7.50 | 5.63 | | |
| 01668 | MELATONIN - 300 mcg, 100 veg. caps | 5.75 | 4.31 | | |
| | Buy 4 bottles, price each | 5.00 | 3.75 | | |
| 01083 | MELATONIN - 500 mcg, 200 veg. caps | 18.00 | 13.50 | | |
| | Buy 4 bottles, price each | 16.00 | 12.00 | | |
| 00329 | MELATONIN - 1 mg, 60 caps | 5.00 | 3.75 | | |
| | Buy 4 bottles, price each | 4.63 | 3.47 | | |
| 00330 | MELATONIN - 3 mg, 60 caps | 8.00 | 6.00 | | |
| | Buy 4 bottles, price each | 6.88 | 5.16 | | |
| 01786 | MELATONIN TIME RELEASE - 3 mg, 60 veg. tabs | 12.00 | 9.00 | | |
| | Buy 4 bottles, price each | 11.00 | 8.25 | | |
| 00331 | MELATONIN - 10 mg, 60 caps | 28.00 | 21.00 | | |
| | Buy 4 bottles, price each | 24.00 | 18.00 | | |
| 00332 | MELATONIN - 3 mg, 60 veg. lozenges | 8.00 | 6.00 | | |
| | Buy 4 bottles, price each | 6.88 | 5.16 | | |
| 01734 | MELATONIN (Fast Acting Liquid) - 3 mg (Natural Citrus-Van) | 12.00 | 9.00 | | |
| | Buy 4 bottles, price each | 11.00 | 8.25 | | |
| 01787 | MELATONIN TIME RELEASE - 300 mcg, 100 veg. tabs | 12.00 | 9.00 | | |
| | Buy 4 bottles, price each | 11.00 | 8.25 | | |
| 01788 | MELATONIN TIME RELEASE - 750 mcg, 60 veg. tablets | 8.00 | 6.00 | | |
| | Buy 4 bottles, price each | 7.00 | 5.25 | | |
| 01536 | METHYLCOBALAMIN - 1 mg, 60 veg. lozenges (vanilla) | 9.95 | 7.46 | | |
| | Buy 4 bottles, price each | 8.00 | 6.00 | | |
| 01537 | METHYLCOBALAMIN - 5 mg, 60 veg. lozenges (vanilla) | 32.00 | 24.00 | | |
| | Buy 4 bottles, price each | 25.00 | 18.75 | | |
| | Buy 10 bottles, price each | 23.00 | 17.25 | | |
| 00709 | MIGRA-EEZE™ (BUTTERBUR) - 60 softgels | 29.50 | 22.13 | | |
| | Buy 4 bottles, price each | 26.33 | 19.75 | | |
| 01800 | MIGRA-MAG w/BRAIN SHIELD® - 90 veg. caps | 22.00 | 16.50 | | |
| | Buy 4 bottles, price each | 20.00 | 15.00 | | |
| 01522 | MILK THISTLE (EUROPEAN) - 60 veg. caps | 34.00 | 25.50 | | |
| | Buy 4 bottles, price each | 30.00 | 22.50 | | |
| 01822 | MILK THISTLE (EUROPEAN) - 60 softgels | 28.00 | 21.00 | | |
| | Buy 4 bottles, price each | 25.00 | 18.75 | | |
| 01817 | MILK THISTLE (EUROPEAN) - 120 softgels | 44.00 | 33.00 | | |
| | Buy 4 bottles, price each | 40.00 | 30.00 | | |
| 01698 | MIRAFORTE w/STANDARDIZED LIGNANS (SUPER) - 120 caps | 62.00 | 46.50 | | |
| | Buy 4 bottles, price each | 56.00 | 42.00 | | |
| 01769 | MITOCHONDRIAL BASICS w/BIOPQQ® - 30 caps | 52.00 | 39.00 | | |
| | Buy 4 bottles, price each | 46.00 | 34.50 | | |
| 01768 | MITOCHONDRIAL ENERGY OPTIMIZER w/BIOPQQ® - 120 caps | 94.00 | 70.50 | | |
| | Buy 4 bottles, price each | 84.00 | 63.00 | | |
| 00065 | MK-7 - 90 mcg, 60 softgels | 28.00 | 21.00 | | |
| | Buy 4 bottles, price each | 25.00 | 18.75 | | |
| 01279 | MOUTHWASH w/POMEGRANATE - 16 oz | 18.50 | 13.88 | | |
| | Buy 4 bottles, price each | 17.00 | 12.75 | | |
| 00451 | MSM (METHYLSULFONYLMETHANE) - 1,000 mg, 100 caps | 14.00 | 10.50 | | |
| | Buy 4 bottles, price each | 11.95 | 8.96 | | |

SUB-TOTAL OF COLUMN 11

Buyers Club Order Form

| No. | | Retail Each | Member Each | Qty | Total |
|----------|---|----------------|----------------|-----|-------|
| N | | | | | |
| 01534 | N-ACETYL-L-CYSTEINE - 600 mg, 60 veg. caps | \$14.00 | \$10.50 | | |
| | Buy 4 bottles, price each | 13.50 | 10.13 | | |
| 00066 | NATTOKINASE - 60 softgels | 25.50 | 19.13 | | |
| 01807 | NATURAL APPETITE SUPPRESS (ADVANCED) - 60 veg. caps | 38.00 | 28.50 | | |
| | Buy 4 bottles, price each | 34.00 | 25.50 | | |
| 00984 | NATURAL BP MANAGEMENT - 60 tablets | 44.00 | 33.00 | | |
| | Buy 4 bottles, price each | 40.00 | 30.00 | | |
| 01892 | NATURAL ESTROGEN - 60 veg. tabs | 38.00 | 28.50 | | |
| | Buy 4 bottles, price each | 34.00 | 25.50 | | |
| 01221 | NATURAL FEMALE SUPPORT - 30 veg. caps | 28.00 | 21.00 | | |
| | Buy 4 bottles, price each | 24.00 | 18.00 | | |
| 01471 | NATURAL GLUCOSE ABSORPTION CONTROL - 60 veg. caps | 39.00 | 29.25 | | |
| | Buy 4 bottles, price each | 36.00 | 27.00 | | |
| 01626 | NATURAL SEX FOR WOMEN® 50+ (ADVANCED) - 90 veg. caps | 59.00 | 44.25 | | |
| | Buy 4 bottles, price each | 45.33 | 34.00 | | |
| 01444 | NATURAL SLEEP® - 60 veg. caps | 13.00 | 9.75 | | |
| | Buy 4 bottles, price each | 10.00 | 7.50 | | |
| 01551 | NATURAL SLEEP® w/ MELATONIN (ENHANCED) - 30 caps | 22.00 | 16.50 | | |
| | Buy 4 bottles, price each | 20.00 | 15.00 | | |
| 01511 | NATURAL SLEEP® w/o MELATONIN (ENHANCED) - 30 caps | 20.00 | 15.00 | | |
| | Buy 4 bottles, price each | 18.00 | 13.50 | | |
| 01445 | NATURAL SLEEP® MELATONIN - 5 mg, 60 veg. caps | 18.00 | 13.50 | | |
| | Buy 4 bottles, price each | 16.00 | 12.00 | | |
| 00987 | NATURAL STRESS RELIEF - 30 veg. caps | 28.00 | 21.00 | | |
| | Buy 4 bottles, price each | 24.00 | 18.00 | | |
| 01603 | NEURO-MAG™ MAGNESIUM L-THREONATE - 90 veg. caps | 40.00 | 30.00 | | |
| | Buy 4 bottles, price each | 36.00 | 27.00 | | |
| 01602 | NEURO-MAG™ L-THREONATE w/CALCIUM & VITAMIN D 225 grams - Lemon flavor | 40.00 | 30.00 | | |
| | Buy 4 bottles, price each | 36.00 | 27.00 | | |
| 00373 | NO-FLUSH NIACIN - 800 mg, 100 caps | 19.00 | 14.25 | | |
| | Buy 4 bottles, price each | 17.00 | 12.75 | | |
| O | | | | | |
| 01824 | OLIVE LEAF VASCULAR SUPPORT w/CELERY SEED EXTRAT(ADVANCED) 500 mg, 60 veg. caps • Buy 4 bottles, price each | \$36.00 | \$27.00 | | |
| | | 32.00 | 24.00 | | |
| 01819 | OMEGA WITH KRILL & ASTAXANTHIN (SUPER) - 120 softgels | 45.00 | 33.75 | | |
| | Buy 4 bottles, price each | 42.00 | 31.50 | | |
| | Buy 10 bottles, price each | 38.00 | 28.50 | | |
| 01483 | OMEGA 3 EPA/DHA w/SESAME LIGNANS & OLIVE FRUIT EXTRACT (SUPER) - 60 softgels | 18.00 | 13.50 | | |
| | Buy 4 bottles, price each | 16.00 | 12.00 | | |
| | Buy 10 bottles, price each | 14.00 | 10.50 | | |
| 01482 | OMEGA 3 EPA/DHA w/SESAME LIGNANS & OLIVE FRUIT EXTRACT (SUPER) - 120 softgels | 32.00 | 24.00 | | |
| | Buy 4 bottles, price each | 28.00 | 21.00 | | |
| | Buy 10 bottles, price each | 24.90 | 18.68 | | |
| 01484 | OMEGA 3 EPA/DHA w/SESAME LIGNANS & OLIVE FRUIT EXTRACT (SUPER) - 120 enteric coated softgels | 34.00 | 25.50 | | |
| | Buy 4 bottles, price each | 31.00 | 23.25 | | |
| | Buy 10 bottles, price each | 28.00 | 21.00 | | |

SUB-TOTAL OF COLUMN 12

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

OCTOBER 2014

Buyers Club Order Form

To order call: 1.954.766.8433 or 1.800.544.4440

| No. | | Retail Each | Member Each | Qty | Total |
|------------------|--|----------------|----------------|-----|-------|
| CONTINUED | | | | | |
| 01485 | OMEGA 3 EPA/DHA W/SESAME LIGNANS & OLIVE FRUIT EXTRACT (SUPER) - 60 enteric coated softgels | \$20.00 | \$15.00 | | |
| | Buy 4 bottles, price each | 18.00 | 13.50 | | |
| | Buy 10 bottles, price each | 16.00 | 12.00 | | |
| 01619 | OMEGA 3 EPA/DHA W/SESAME LIGNANS & OLIVE FRUIT EXTRACT (SUPER) (SMALL SOFTGEL) - 240 softgels | 32.00 | 24.00 | | |
| | Buy 4 bottles, price each | 28.00 | 21.00 | | |
| | Buy 10 bottles, price each | 24.90 | 18.68 | | |
| 01801 | ONE-PER-DAY - 60 tablets | 22.00 | 16.50 | | |
| | Buy 4 bottles, price each | 20.00 | 15.00 | | |
| 01328 | ONLY TRACE MINERALS - 90 veg. caps | 15.00 | 11.25 | | |
| | Buy 4 bottles, price each | 12.50 | 9.38 | | |
| P | | | | | |
| 01789 | PALMETTOGUARD™ SAW PALMETTO w/BETA SITOSTEROL - 30 softgels | \$15.00 | \$11.25 | | |
| | Buy 12 bottles, price each | 12.00 | 9.00 | | |
| 00073 | PANCREATIN - 500 mg, 50 caps | 13.22 | 9.92 | | |
| 01323 | PEAK ATP® WITH GLYCOARN® - 60 veg. caps | 54.00 | 40.50 | | |
| | Buy 4 bottles, price each | 50.00 | 37.50 | | |
| 00342 | PECTA SOL-C® MODIFIED CITRUS PECTIN - 454 grams powder | 109.95 | 82.46 | | |
| 01080 | PECTA SOL-C® MODIFIED CITRUS PECTIN - 270 veg. caps | 79.95 | 59.96 | | |
| 01811 | PEONY IMMUNE - 60 veg. caps | 36.00 | 27.00 | | |
| | Buy 4 bottles, price each | 32.00 | 24.00 | | |
| 00673 | PGX™ PLUS MULBERRY (WELLBETX®) - 180 veg. caps | 34.95 | 26.21 | | |
| 00865 | PHARMA GABA® - 60 chewable tablets | 29.95 | 22.46 | | |
| | Buy 4 bottles, price each | 27.00 | 20.25 | | |
| 01676 | PHOSPHATIDYL SERINE CAPS - 100 mg, 100 veg. caps | 54.00 | 40.50 | | |
| | Buy 4 bottles, price each | 48.00 | 36.00 | | |
| 01390 | PHOSPHOMEGA® - 60 softgels | 39.95 | 26.96 | | |
| 01436 | POLICOSANOL - 10 mg, 60 veg. caps | 20.00 | 15.00 | | |
| | Buy 4 bottles, price each | 15.00 | 11.25 | | |
| 01423 | POMEGRANATE™ (FULL-SPECTRUM) - 30 softgels | 24.00 | 18.00 | | |
| | Buy 4 bottles, price each | 21.00 | 15.75 | | |
| 00956 | POMEGRANATE EXTRACT - 30 veg. caps | 19.50 | 14.63 | | |
| | Buy 4 bottles, price each | 17.55 | 13.16 | | |
| 01797 | POMI-T® - 60 veg. caps | 33.33 | 25.00 | | |
| | Buy 4 bottles, price each | 30.00 | 22.50 | | |
| 00577 | POTASSIUM IODIDE - 1 box, 14 tablets | 6.95 | 5.21 | | |
| | Buy 4 boxes, price each | 5.25 | 3.94 | | |
| 01500 | PQQ CAPS W/BIOPQQ® - 10 mg, 30 veg. caps | 24.00 | 18.00 | | |
| | Buy 4 bottles, price each | 22.00 | 16.50 | | |
| 01647 | PQQ CAPS W/BIOPQQ® - 20 mg, 30 veg. caps | 40.00 | 30.00 | | |
| | Buy 4 bottles, price each | 36.00 | 27.00 | | |
| 00302 | PREGNENOLONE - 50 mg, 100 caps | 26.00 | 19.50 | | |
| | Buy 4 bottles, price each | 22.00 | 16.50 | | |
| 00700 | PREGNENOLONE - 100 mg, 100 caps | 30.00 | 22.50 | | |
| | Buy 4 bottles, price each | 27.00 | 20.25 | | |
| ***01373 | PRELOX® NATURAL SEX FOR MEN® - 60 tablets | 52.00 | 39.00 | | |
| | Buy 4 bottles, price each | 48.00 | 36.00 | | |
| 01576 | PREVAGEN® - 10 mg, 30 caps | 60.00 | 45.00 | | |
| 01577 | PREVAGEN® ES - 20 mg, 30 caps | 70.00 | 52.50 | | |
| 00525 | PROBOOST THYMIC PROTEIN A™ - 4 mcg, 30 packets | 59.95 | 44.96 | | |

SUB-TOTAL OF COLUMN 13

OCTOBER 2014

| No. | | Retail Each | Member Each | Qty | Total |
|-------------|---|----------------|----------------|-----|-------|
| 01441 | PROGESTACARE FOR WOMEN - 4 oz cream | \$35.00 | \$26.25 | | |
| | Buy 4 bottles, price each | 32.00 | 24.00 | | |
| 01898 | PROSTATE FORMULA (ULTRA NAT) 60 softgels | 38.00 | 28.50 | | |
| | Buy 4 bottles, price each | 35.00 | 26.25 | | |
| | Buy 12 bottles, price each | 32.00 | 24.00 | | |
| 01742 | PROTEIN-ISOLATE (WHEY) VANILLA - 1 lb. powder | 30.00 | 22.50 | | |
| | Buy 4 jars, price each | 27.00 | 20.25 | | |
| 01743 | PROTEIN-ISOLATE (WHEY) CHOCOLATE - 1 lb. powder | 30.00 | 22.50 | | |
| | Buy 4 jars, price each | 27.00 | 20.25 | | |
| 01770 | PROTEIN CONCENTRATE (New Zealand Whey) Vanilla - 520 gr | 30.00 | 22.50 | | |
| | Buy 4 bottles, price each | 26.60 | 19.95 | | |
| 01771 | PROTEIN CONCENTRATE (New Zealand Whey) Chocolate - 660 gr | 30.00 | 22.50 | | |
| | Buy 4 bottles, price each | 26.60 | 19.95 | | |
| 01812 | PROVINAL® PURIFIED OMEGA-7 - 30 softgels | 27.00 | 20.25 | | |
| | Buy 4 bottles, price each | 24.00 | 18.00 | | |
| 01508 | PTEROPURE® - 50 mg Pterostilbene 60 veg. caps | 32.00 | 24.00 | | |
| | Buy 4 bottles, price each | 30.00 | 22.50 | | |
| 01587 | PURE PLANT PROTEIN - Veg. Vanilla 540 grams powder | 38.00 | 28.50 | | |
| | Buy 4 jars, price each | 35.00 | 26.25 | | |
| 01637 | PYCNOGENOL® FRENCH MARITIME PINE BARK EXTRACT -100 mg, 60 veg. caps | 64.00 | 48.00 | | |
| | Buy 4 bottles, price each | 60.00 | 45.00 | | |
| 01217 | PYRIDOXAL 5'-PHOSPHATE - 100 mg, 60 veg. caps | 22.00 | 16.50 | | |
| | Buy 4 bottles, price each | 19.80 | 14.85 | | |
| Q, R | | | | | |
| 01309 | QUERCETIN (OPTIMIZED) - 250 mg, 60 veg. caps | \$22.00 | \$16.50 | | |
| | Buy 4 bottles, price each | 20.00 | 15.00 | | |
| 01030 | RED YEAST RICE (Bluebonnet)- 600 mg, 60 veg. caps | 16.95 | 13.56 | | |
| 00605 | REGIMINT - 60 enteric-coated caps | 19.95 | 14.96 | | |
| | Buy 4 bottles, price each | 18.67 | 14.00 | | |
| 01708 | REISHI EXTRACT MUSHROOM COMPLEX - 60 veg. caps | 30.00 | 22.50 | | |
| | Buy 4 bottles, price each | 27.00 | 20.25 | | |
| 01448 | REJUVENEX® BODY LOTION - 6 oz | 24.00 | 18.00 | | |
| | Buy 4 tubes, price each | 19.80 | 14.85 | | |
| | Buy 8 tubes, price each | 17.00 | 12.75 | | |
| 01621 | REJUVENEX® FACTOR FIRMING SERUM - 1.7 oz | 65.00 | 48.75 | | |
| | Buy 2 bottles, price each | 50.66 | 38.00 | | |
| | Buy 6 bottles, price each | 38.52 | 28.89 | | |
| 01220 | REJUVENEX® (ULTRA) - 2 oz | 52.00 | 39.00 | | |
| | Buy 2 jars, price each | 48.00 | 36.00 | | |
| | Buy 4 jars, price each | 44.00 | 33.00 | | |
| | Buy 8 jars, price each | 39.93 | 29.95 | | |
| 00676 | REJUVENIGHT® (ULTRA) - 2 oz | 39.95 | 29.96 | | |
| | Buy 4 jars, price each | 36.00 | 27.00 | | |
| 01410 | RESVERATROL W/PTEROSTILBENE - 100 mg, 60 veg. caps | 36.00 | 27.00 | | |
| | Buy 4 bottles, price each | 32.00 | 24.00 | | |
| 01430 | RESVERATROL w/SYNERGISTIC GRAPE-BERRY ACTIVES (OPTIMIZED) - 250 mg, 60 veg. caps | 46.00 | 34.50 | | |
| | Buy 4 bottles, price each | 41.33 | 31.00 | | |
| 00889 | RHODIOLA EXTRACT - 250 mg, 60 veg. caps | 11.75 | 8.81 | | |
| | Buy 4 bottles, price each | 10.58 | 7.94 | | |
| 00972 | (D) RIBOSE POWDER - 150 grams | 27.50 | 20.63 | | |
| | Buy 4 jars, price each | 24.75 | 18.56 | | |

SUB-TOTAL OF COLUMN 14

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

To order online visit: www.LifeExtension.com

| No. | | Retail Each | Member Each | Qty | Total |
|----------|---|------------------|------------------|-----|-------|
| 01473 | (D) RIBOSE TABLETS - 100 veg. tabs Buy 4 bottles, price each | \$32.00 28.00 | \$24.00 21.00 | | |
| 01609 | RICH REWARDS® BREAKFAST GROUND COFFEE - 12 oz. bag | 13.00 | 9.75 | | |
| 01730 | RICH REWARDS® BREAKFAST BLEND GROUND COFFEE - 12 oz. bag Natural Mocha | 15.00 | 11.25 | | |
| 01729 | RICH REWARDS® BREAKFAST BLEND GROUND COFFEE - 12 oz. bag Natural Vanilla | 15.00 | 11.25 | | |
| 01612 | RICH REWARDS® BREAKFAST BLEND WHOLE BEAN COFFEE-12 oz. bag | 13.00 | 9.75 | | |
| 01610 | RICH REWARDS® DECAFFEINATED ROAST GROUND COFFEE -12 oz. bag | 14.00 | 10.50 | | |
| 01712 | RICH REWARDS™ BLACK BEAN VEGETABLE SOUP - 32 oz. bottle Buy 6 bottles, price each | 13.00 12.25 | 9.75 9.19 | | |
| 01530 | RICH REWARDS™ CRUCIFEROUS VEGETABLE SOUP - 32 oz. bottle Buy 6 bottles, price each | 11.95 11.25 | 8.96 8.44 | | |
| 01531 | RICH REWARDS™ (SPICY) CRUCIFEROUS VEGETABLE SOUP - 32 oz. bottle Buy 6 bottles, price each | 11.95 11.25 | 8.96 8.44 | | |
| 01705 | RICH REWARDS™ LENTIL VEGETABLE SOUP - 32 oz. bottle Buy 6 bottles, price each | 13.00 12.25 | 9.75 9.19 | | |
| 01810 | RICH REWARDS™ MUNG BEAN SOUP W/TURMERIC - 32 oz. bottle Buy 6 bottles, price each | 13.00 12.25 | 9.75 9.19 | | |
| 01820 | RICH REWARDS™ PROTEIN COFFEE CREAMER - Vanilla - 270 grams Buy 4 jars, price each | 26.00 23.00 | 19.50 17.25 | | |
| 01208 | R-LIPOIC ACID (SUPER) - 240 mg, 60 veg. caps Buy 4 bottles, price each | 49.00 45.00 | 36.75 33.75 | | |
| 00070 | RNA CAPSULES - 500 mg, 100 caps Buy 4 bottles, price each | 17.95 16.16 | 13.46 12.12 | | |
| S | | | | | |
| 01432 | SAFFRON w/SATIEREAL® (OPTIMIZED) - 60 veg. caps Buy 4 bottles, price each | \$36.00 32.00 | \$27.00 24.00 | | |
| 00358 | SAME (S-ADENOSYL-METHIONINE) - 200 mg, 20 enteric coated tablets Buy 8 boxes, price each | 16.00 14.00 | 12.00 10.50 | | |
| 00453 | SAME (S-ADENOSYL-METHIONINE) - 200 mg, 50 enteric coated tablets Buy 4 bottles, price each | 36.00 32.00 | 27.00 24.00 | | |
| 00557 | SAME (S-ADENOSYL-METHIONINE) - 400 mg, 20 enteric coated tablets Buy 6 boxes, price each | 28.00 24.00 | 21.00 18.00 | | |
| 01055 | SAME (S-ADENOSYL-METHIONINE) - 400 mg, 50 enteric coated tablets Buy 4 bottles, price each | 66.00 60.00 | 49.50 45.00 | | |
| 01740 | SEA-IODINE™ - 1,000 mcg, 60 veg. caps Buy 4 bottles, price each | 8.00 7.20 | 6.00 5.40 | | |
| 00046 | SELENIUM - 2 oz dropper bottle | 11.95 | 8.96 | | |
| 01679 | SE-METHYL L-SELENOCYSTEINE - 200 mcg, 100 veg. caps Buy 4 bottles, price each | 12.00 11.00 | 9.00 8.25 | | |
| 00318 | SERRAFLAZYME - 100 tablets Buy 4 bottles, price each | 18.00 16.00 | 13.50 12.00 | | |
| 00284 | SHARK LIVER OIL (NORWEGIAN) - 1,000 mg, 30 softgels Buy 4 bottles, price each | 18.00 16.00 | 13.50 12.00 | | |
| 01684 | SILYMARIN - 100 mg, 50 veg. caps Buy 4 bottles, price each | 9.25 8.25 | 6.94 6.19 | | |
| 01596 | SKIN RESTORING PHYTCERAMIDES w/LIPOWHEAT® - 30 veg. liquid caps Buy 4 bottles, price each | 25.00 23.00 | 18.75 17.25 | | |
| 00961 | SODZYME® w/GLISODIN® AND WOLFERRY - 90 veg. caps Buy 4 bottles, price each | 28.00 24.00 | 21.00 18.00 | | |

SUB-TOTAL OF COLUMN 15

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

Buyers Club Order Form

| No. | | Retail Each | Member Each | Qty | Total |
|----------|---|-------------------------|-------------------------|-----|-------|
| 00657 | SOLARSHIELD SUNGLASSES - 1 pair smoke color Buy 2 pairs, price each | \$12.99 11.50 | \$9.74 8.63 | | |
| 01097 | SOY EXTRACT (ULTRA) - 150 veg. caps Buy 4 bottles, price each | 87.00 78.00 | 65.25 58.50 | | |
| 00432 | STEVIA™ EXTRACT (BETTER) - 100 packets, 1 gram each | 9.95 | 7.46 | | |
| 00438 | STEVIA™ ORGANIC LIQUID EXTRACT (BETTER) - 2 oz liquid | 11.00 | 8.25 | | |
| 01476 | STRONTIUM - 750 mg, 90 veg. caps Buy 4 bottles, price each | 20.00 18.00 | 15.00 13.50 | | |
| 01649 | SUPER ABSORBABLE SOY ISOFLAVONES - 60 veg. caps Buy 4 bottles, price each | 28.00 25.00 | 21.00 18.75 | | |
| 01790 | SUPER SAW PALMETTO/NETTLE ROOT W/BETA-SITOSTEROL - 60 softgels Buy 4 bottles, price each Buy 12 bottles, price each | 28.00 26.00 24.00 | 21.00 19.50 18.00 | | |
| 01778 | SUPER SELENIUM COMPLEX - 200 mcg, 100 veg. caps Buy 4 bottles, price each Buy 12 bottles, price each | 14.00 12.00 11.00 | 10.50 9.00 8.25 | | |
| T | | | | | |
| 01723 | TART CHERRY EXTRACT w/STANDARDIZED CHERRYPURE® - 60 veg. caps Buy 4 bottles, price each | \$22.00 20.00 | \$16.50 15.00 | | |
| 00199 | TAURINE - 1,000 mg, 50 caps Buy 4 bottles, price each | 8.95 8.00 | 6.71 6.00 | | |
| 00133 | TAURINE POWDER - 300 grams Buy 4 bottles, price each | 20.00 16.88 | 15.00 12.66 | | |
| 01304 | THEAFLAVIN STANDARDIZED EXTRACT - 30 veg. caps Buy 4 bottles, price each | 18.00 16.00 | 13.50 12.00 | | |
| 01683 | (L) THEANINE - 100 mg, 60 veg. caps Buy 4 bottles, price each | 24.00 20.50 | 18.00 15.38 | | |
| **01038 | THERALAC PROBIOTICS - 30 caps | 47.95 | 35.96 | | |
| 00668 | THYROID FORMULA™ (METABOLIC ADVANTAGE) - 100 caps | 21.95 | 16.46 | | |
| 00349 | TMG POWDER - 50 grams Buy 4 bottles, price each | 14.00 11.00 | 10.50 8.25 | | |
| 01859 | TMG - 1,000 mg, 60 veg. liquid caps Buy 4 bottles, price each | 13.00 12.00 | 9.75 9.00 | | |
| 00781 | TOCOTRIENOLS WITH SESAME LIGNANS - 60 softgels Buy 4 bottles, price each | 38.00 36.00 | 28.50 27.00 | | |
| 01400 | TOCOTRIENOLS (SUPER-ABSORBABLE) - 60 softgels Buy 4 bottles, price each | 30.00 28.00 | 22.50 21.00 | | |
| 01278 | TOOTHPASTE - 4 oz (Mint) Buy 4 tubes, price each | 9.50 8.67 | 7.13 6.50 | | |
| 01468 | TRIPLE ACTION CRUCIFEROUS VEGETABLE EXTRACT - 60 veg. caps Buy 4 bottles, price each | 24.00 22.00 | 18.00 16.50 | | |
| 01469 | TRIPLE ACTION CRUCIFEROUS VEGETABLE EXTRACT W/RESVERATROL - 60 veg. caps Buy 4 bottles, price each | 32.00 29.60 | 24.00 22.20 | | |
| 01803 | TRI SUGAR SHIELD™ - 60 veg. caps Buy 4 bottles, price each | 36.00 32.00 | 27.00 24.00 | | |
| 01386 | TRUFIBER® - 180 grams | 32.95 | 24.71 | | |
| 01389 | TRUFLOA PROBIOTICS - 32 veg. caps | 42.95 | 32.21 | | |
| 01722 | L-TRYPTOPHAN - 500 mg, 90 veg. caps Buy 4 bottles, price each | 33.00 30.00 | 24.75 22.50 | | |

SUB-TOTAL OF COLUMN 16

OCTOBER 2014

Buyers Club Order Form

| No. | | Retail Each | Member Each | Qty | Total |
|--------------------|---|----------------|----------------|-----|-------|
| T CONTINUED | | | | | |
| 01721 | TRYPTOPHAN PLUS (OPTIMIZED) - 90 veg. caps | \$32.00 | \$24.00 | | |
| | Buy 4 bottles, price each | 29.00 | 21.75 | | |
| 01816 | TWO-PER-DAY - 60 tablets | 10.50 | 7.88 | | |
| | Buy 4 bottles, price each | 9.50 | 7.13 | | |
| 01815 | TWO-PER-DAY - 120 tablets | 20.00 | 15.00 | | |
| | Buy 4 bottles, price each | 18.00 | 13.50 | | |
| 01814 | TWO-PER-DAY - 120 caps | 22.00 | 16.50 | | |
| | Buy 4 bottles, price each | 20.00 | 15.00 | | |
| 00326 | L-TYROSINE - 500 mg, 100 tablets | 12.98 | 9.74 | | |
| V | | | | | |
| 00213 | VANADYL SULFATE - 7.5 mg, 100 veg. tablets | \$15.00 | \$11.25 | | |
| | Buy 4 bottles, price each | 12.50 | 9.38 | | |
| 00408 | VENOTONE - 60 caps | 18.95 | 14.21 | | |
| | Buy 4 bottles, price each | 16.00 | 12.00 | | |
| 01327 | VINPOCETINE - 10 mg, 100 tablets | 18.00 | 13.50 | | |
| | Buy 4 bottles, price each | 14.00 | 10.50 | | |
| 00372 | VITAMIN B3 NIACIN - 500 mg, 100 caps | 7.65 | 5.74 | | |
| | Buy 4 bottles, price each | 6.65 | 4.99 | | |
| 00098 | VITAMIN B5 - 500 mg, 100 caps (Pantothenic Acid) | 10.50 | 7.88 | | |
| | Buy 4 bottles, price each | 9.38 | 7.04 | | |
| 01535 | VITAMIN B6 - 250 mg, 100 veg. caps | 12.50 | 9.38 | | |
| | Buy 4 bottles, price each | 11.00 | 8.25 | | |
| 00361 | VITAMIN B12 - 500 mcg, 100 lozenges | 8.75 | 6.56 | | |
| | Buy 4 bottles, price each | 7.25 | 5.44 | | |
| 01634 | VITAMIN C w/ DIHYDROQUERCETIN - 1,000 mg, 60 veg. tablets | 10.00 | 7.50 | | |
| | Buy 4 bottles, price each | 9.00 | 6.75 | | |
| 00927 | VITAMIN C w/ DIHYDROQUERCETIN - 1,000 mg, 250 veg. tablets | 25.50 | 19.13 | | |
| | Buy 4 bottles, price each | 23.25 | 17.44 | | |
| 00084 | VITAMIN C (BUFFERED) POWDER - 454.6 grams | 23.95 | 17.96 | | |
| | Buy 4 bottles, price each | 22.00 | 16.50 | | |
| 01736 | (EFFERVESCENT) VITAMIN C-MAGNESIUM CRYSTALS - 180 grams | 20.00 | 15.00 | | |
| | Buy 4 bottles, price each | 18.00 | 13.50 | | |
| 01732 | VITAMIN D3 - 2,000 IU, 1 fl oz, Mint flavor | 28.00 | 21.00 | | |
| | Buy 4 bottles, price each | 25.00 | 18.75 | | |
| 01753 | VITAMIN D3 - 1,000 IU, 90 softgels | 7.00 | 5.25 | | |
| | Buy 4 bottles, price each | 6.00 | 4.50 | | |
| 01751 | VITAMIN D3 - 1,000 IU, 250 softgels | 12.50 | 9.38 | | |
| | Buy 4 bottles, price each | 11.25 | 8.44 | | |
| 01713 | VITAMIN D3 - 5,000 IU, 60 softgels | 11.00 | 8.25 | | |
| | Buy 4 bottles, price each | 9.90 | 7.43 | | |
| 01718 | VITAMIN D3 - 7,000 IU, 60 softgels | 14.00 | 10.50 | | |
| | Buy 4 bottles, price each | 12.60 | 9.45 | | |
| 01758 | VITAMIN D3 w/SEA-IODINE™ - 5,000 IU, 60 caps | 14.00 | 10.50 | | |
| | Buy 4 bottles, price each | 12.50 | 9.38 | | |
| 00864 | VITAMIN D3 Liquid Emulsion - 2,000 IU, 1 oz. | 28.00 | 21.00 | | |
| | Buy 4 bottles, price each | 25.00 | 18.75 | | |
| 01741 | VITAMINS D AND K w/SEA-IODINE™ - 60 caps | 24.00 | 18.00 | | |
| | Buy 4 bottles, price each | 22.00 | 16.50 | | |
| 01763 | VITAMIN E (NATURAL) - 400 IU, 100 softgels | 30.00 | 22.50 | | |
| | Buy 4 bottles, price each | 28.00 | 21.00 | | |
| | Buy 10 bottles, price each | 26.00 | 19.50 | | |
| 01225 | VITAMIN K2 (LOW-DOSE) - 45 mcg, 90 softgels | 18.00 | 13.50 | | |
| | Buy 4 bottles, price each | 16.00 | 12.00 | | |

SUB-TOTAL OF COLUMN 17

To order call: 1.954.766.8433 or 1.800.544.4440

| No. | | Retail Each | Member Each | Qty | Total |
|----------|--|----------------|----------------|-----|-------|
| X | | | | | |
| 00409 | XYLIWHITE™ MOUTHWASH - 16 oz | \$10.00 | \$7.50 | | |
| Z | | | | | |
| 01813 | ZINC HIGH POTENCY - 50 mg, 90 veg. caps | \$7.95 | \$5.96 | | |
| | Buy 4 bottles, price each | 7.00 | 5.25 | | |
| 01561 | ZINC LOZENGES - 60 veg. lozenges | 9.00 | 6.75 | | |
| | Buy 4 bottles, price each | 8.00 | 6.00 | | |
| ***01051 | ZYFLAMEND® WHOLE BODY - 120 softgels | 64.95 | 48.71 | | |

SUB-TOTAL OF COLUMN 18

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HEALTH with a
LIFE EXTENSION
GIFT CARD!**



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† Member pricing not valid on this item.

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

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| | |
|---------------------|--|
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| SUB-TOTAL COLUMN 2 | |
| SUB-TOTAL COLUMN 3 | |
| SUB-TOTAL COLUMN 4 | |
| SUB-TOTAL COLUMN 5 | |
| SUB-TOTAL COLUMN 6 | |
| SUB-TOTAL COLUMN 7 | |
| SUB-TOTAL COLUMN 8 | |
| SUB-TOTAL COLUMN 9 | |
| SUB-TOTAL COLUMN 10 | |
| SUB-TOTAL COLUMN 11 | |
| SUB-TOTAL COLUMN 12 | |
| SUB-TOTAL COLUMN 13 | |
| SUB-TOTAL COLUMN 14 | |
| SUB-TOTAL COLUMN 15 | |
| SUB-TOTAL COLUMN 16 | |
| SUB-TOTAL COLUMN 17 | |
| SUB-TOTAL COLUMN 18 | |

ORDER TOTALS

| | |
|---|---------------|
| Sub-Total A (Sub-total of Columns 1 through 18) | |
| Postage And Handling (Any size order, continental U.S.) | \$5.50 |
| C.O.D.s (Add \$7 for C.O.D. orders) | |
| Shipping | |
| GRAND TOTAL (Must be in U.S. dollars) | |

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| VISA/MASTERCARD/AMEX/DISCOVER # | |
| EXP. DATE | |
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| 33871 | DOCTORED RESULTS: THE SUPPRESSION OF LAETRILE AT SLOAN-KETTERING INSTITUTE • by Ralph W. Moss, PhD | 2014 | \$19.95 | \$14.96 | | |
| 33867 | THE COMPLETE MEDITERRANEAN DIET • by Michael Ozner, MD • <i>Special introductory price until August 31, 2014 - \$12.97</i> | 2014 | \$19.95 | \$14.96 | | |
| 33869 | UNLEASH THE POWER OF THE FEMALE BRAIN • by Daniel Amen, MD | 2014 | \$16.00 | \$12.00 | | |
| 33870 | MAGNIFICENT MAGNESIUM • by Dennis Goodman, MD | 2014 | \$14.95 | \$11.21 | | |
| 33866 | HEART, AN AMERICAN MEDICAL ODYSSEY • by Dick Cheney & Jonathan Reiner, MD | 2014 | \$28.00 | \$21.00 | | |
| 33864 | THE SUPPLEMENT PYRAMID • by Michael A. Smith, MD | 2014 | \$24.95 | \$18.71 | | |
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| 33865 | THE RESTORATION OF THE HUMAN BODY [IN 7 PARTS] • by Sergey A. Dzigan, MD, PhD | 2014 | \$29.95 | \$22.46 | | |
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| 33861 | THE SOUTH BEACH DIET GLUTEN SOLUTION • Dr. Arthur Agatston | 2013 | \$25.99 | \$19.49 | | |
| 33859 | THE BLOOD SUGAR SOLUTION • by Mark Hyman, MD | 2013 | \$27.99 | \$20.99 | | |
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| 33843 | BOMBSHELL • by Suzanne Somers | 2012 | \$26.00 | \$19.50 | | |
| 33845 | DRUG MUGGERS • by R.Ph. Susy Cohen | 2012 | \$21.99 | \$16.49 | | |
| 33842 | HEART ATTACK PROOF • by Michael Ozner, MD | 2012 | \$19.95 | \$14.96 | | |
| 33838 | YOUR GUIDE TO HEALTHY SKIN THE NATURAL WAY • by Gary Goldfaden, MD | 2012 | \$26.00 | \$15.00 | | |
| 33833 | THE LIFE PLAN • by Jeffry S. Life, MD, PhD | 2011 | \$26.00 | \$19.50 | | |
| 33832 | YOUR BONES • by Lara Pizzorno, MA, LMT | 2011 | \$12.00 | \$9.00 | | |
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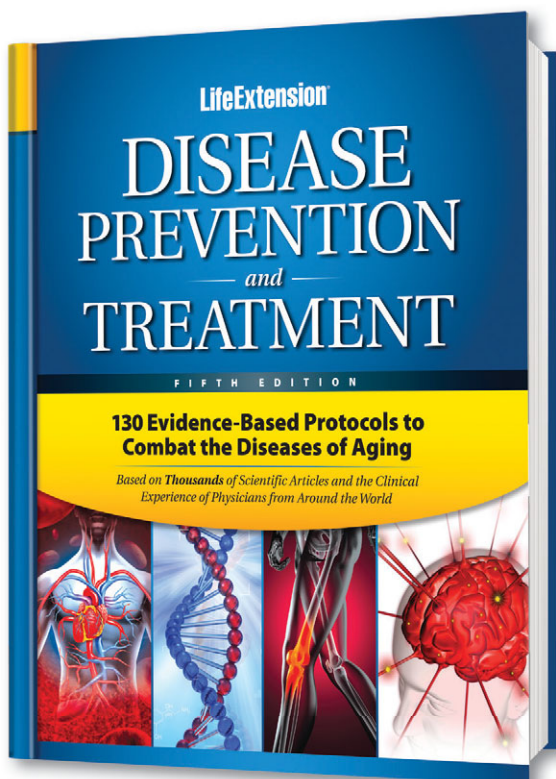
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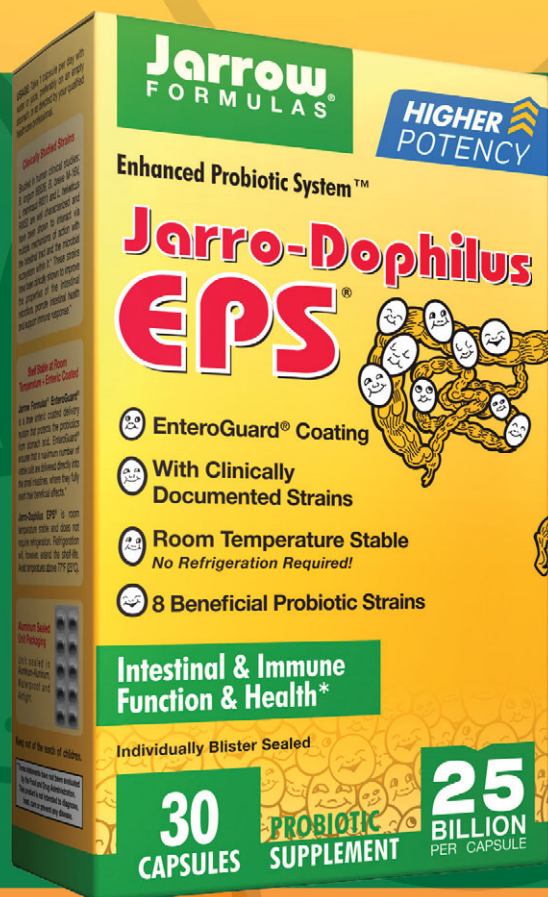


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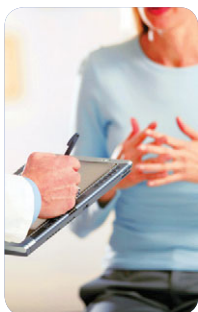
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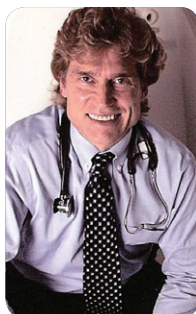
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