

FDA DELAY KILLS THOUSANDS OF CANCER VICTIMS

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November 2010

Anti-Cancer Effects of Metformin

Rebuttal to
Media Attacks
Against Calcium
and Testosterone

Overlooked
Benefits
of Vitamin K

Virtue of
Plant Proteins



PLUS-

**RESVERATROL REDUCES WEIGHT GAIN
BLUEBERRIES OFFER CARDIO PROTECTION
REHYDRATE AGED SKIN**

PROTECT EYE HEALTH AND FIGHT TIRED EYES

The *density* of your macular pigment (composed of lutein, zeaxanthin, and meso-zeaxanthin) is essential to proper vision. Unfortunately, this density declines naturally over time. Some aging people also lose their ability to convert lutein into **meso-zeaxanthin** inside their macula.

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

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

Fight Tired Eyes With Astaxanthin

If you're one of the more than 72 million people in America who use a computer daily at work,¹ you're probably familiar with eye fatigue. Staring at a fixed-distance object such as a computer screen for a long period of



Item #01286

time can cause the muscles that focus your eyes (called the ciliary body) to tire or go into spasm. This can result in physical symptoms such as head discomfort, sensitivity to glare, tiredness, soreness, dryness, and blurry vision.

Super Zeaxanthin with Lutein & Meso-zeaxanthin Plus Astaxanthin contains a potent dose of **astaxanthin**, a carotenoid found in a red algae. Studies show that taking **astaxanthin** with other carotenoids protects against free-radical induced DNA damage, repairs UVA-irradiated cells, and inhibits inflammatory cell infiltration.²⁻⁵ Astaxanthin also helps support vascular health

within the eye and improves visual acuity.⁴ Its fat-soluble nature offers protection to sensitive cells inside the eye.⁶

With its special combination of ingredients that targets eyestrain and protects visual acuity, **Super Zeaxanthin with Lutein & Meso-zeaxanthin Plus Astaxanthin** is the most exciting eye care supplement available.

The retail price for a bottle containing 60 softgels of

Super Zeaxanthin with Lutein & Meso-zeaxanthin Plus Astaxanthin is \$42. If a member buys four bottles, the price is reduced to just **\$28.50** per bottle.

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

OptiLut® and Lutein Plus® with MZ® Marigold (<i>Tagetes erecta</i>) Extract (flower) [free lutein equivalent 10 mg]	38 mg
Zeaxanthin & Meso-zeaxanthin blend (micronized zeaxanthin, OptiLut® Marigold) and Lutein Plus® with MZ® Marigold Extract)	3.75 mg
Natural Astaxanthin (Zanthin® CO ₂ extract of <i>Haematococcus pluvialis</i> algae)	6 mg

Contains soybeans.

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

References

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



REPORTS



28 HALT MUSCLE LOSS WITH PLANT PROTEIN BLEND

Half of all Americans are at risk of the progressive loss of vital muscle tissue, a condition called **sarcopenia**. Find out how a novel plant protein blend can halt this erosion of muscle tissue and induce favorable anti-aging properties throughout the body.



56 SEA COMPOUND PROMOTES YOUNGER-LOOKING SKIN

Hydration is crucial to combating dry, flaky, wrinkled skin. Scientists have discovered a novel link between the way marine organisms and skin cells retain water. The result is a sea-based hydrating mist that can boost skin cell moisture by up to **30%**.



66 REMARKABLE ANTI-CANCER EFFECTS OF VITAMIN K

Scientists now understand the critical need to supplement with higher doses of **vitamin D**. Overlooked is cutting-edge research documenting the crucial role of **vitamin K** in combating a host of common cancers.



76 & 82 CONVENTIONAL MEDICINE'S GROSS INCOMPETENCE EXPOSED

When it comes to designing human studies to evaluate **anti-aging therapies**, the medical establishment is riddled with rampant incompetence. In these two reports, **Life Extension®** rebuts mainstream medicine's ignorant and possibly corrupt allegations that **calcium supplements** and properly *administered* **testosterone therapy** are dangerous.



40 ON THE COVER

A DRUG EVERYONE SHOULD ASK THEIR DOCTOR ABOUT

Exciting new findings reveal that virtually all aging individuals can benefit from the anti-diabetic drug **metformin**. The latest studies uncover the ability of metformin to slash cancer risk, rein in blood sugar, trigger weight loss—and mimic other favorable effects of calorie restriction!

DEPARTMENTS



7 AS WE SEE IT—FDA DELAY OF JUST ONE DRUG RESULTS IN 80,000 LOST LIFE-YEARS

For most of this decade, **Life Extension®** has been battling to force the FDA to approve a prostate cancer therapy called Provenge®. In April 2010, the FDA finally capitulated. The tragic result is thousands of lives needlessly lost as a treatment with documented efficacy was intentionally denied to terminally ill prostate cancer patients by our federal government.

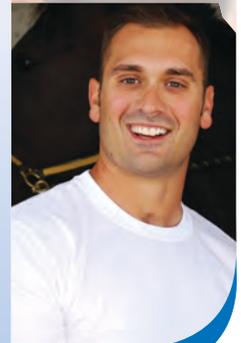
19 IN THE NEWS

Vitamin C boosts mood; blueberries protect against cardiac risk factors in metabolic syndrome; calorie restriction and exercise rejuvenate nerve connections.



89 PROFILE: STEVE FOCERI

Power, balance, lightning reflexes, keen eyesight: these are the keys to success in the equestrian sport of harness racing. Pro racer Steve Foceri reveals how **Life Extension®** helped him achieve peak performance with a tailored supplement regimen, including our **why protein**, **zeaxanthin**, **Two-Per-Day** tablets, and **glucosamine/chondroitin**.





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CONTRIBUTORS

Felix DiFara • D. Dye • Marc Ellman, MD • William Faloon • Julius Goepp, MD
Gary Goldfaden, MD • Robert Goldfaden • Stephen Laifer • Steven Joyal, MD

ADVERTISING

Marketing Director • Rey Searles • rsearles@lifeextension.com
National Advertising Manager • Eric Brown • 404-347-8992

DIRECTOR OF BUSINESS DEVELOPMENT

Ron Antriasian • rantriasian@lifeextension.com • 781-271-0089

CIRCULATION & DISTRIBUTION

Life Extension • 1100 West Commercial Blvd., Ft. Lauderdale, FL 33309
Editorial offices: 954-766-8433 • fax: 954-491-5306

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SUPER BOOSTER

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

Despite abundant scientific validation, many people still do not take vital nutrients because they don't want to swallow so many pills. This problem has been solved with a one-per-day softgel that includes multiple health-promoting nutrients in just one supplement.

The **Life Extension® Super Booster** contains critical oil-based nutrients that cannot be incorporated into dry-powder based formulas like the **Life Extension Mix™**. The **Super Booster** provides the most effective form of **vitamin K** known as **menaquinone-7** along with other forms of this critical nutrient.

Just one **Super Booster** softgel provides:

- **Gamma Tocopherol** If one consumes only alpha tocopherol, the critically important gamma tocopherol is displaced from cells within the body. While alpha tocopherol vitamin E inhibits lipid peroxidation, the gamma tocopherol form quenches the dangerous peroxynitrite free radical. It is especially important for those who take vitamin E supplements to make sure they consume at least 200 mg a day of gamma tocopherol.
- **Sesame Lignans** Sesame lignans augment the antioxidant effects of both alpha and gamma-tocopherol. In a human study conducted at Life Extension, gamma tocopherol plus sesame lignans was 25% more effective in suppressing measurements of free-radical damage than gamma tocopherol and tocotrienols.
- **Vitamin K2** **Vitamin K1** from dietary plant sources is poorly absorbed and only a small fraction gets into the bloodstream. **Vitamin K2** is absorbed much more efficiently.



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

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

- **Lycopene** Evidence suggests that people who ingest the carotenoid lycopene enjoy healthier prostate function. Lycopene also helps guard against LDL oxidation.
- **Lutein** The carotenoid lutein helps maintain healthy cell division, supports the macula of the eye, and protects the endothelial lining of the arteries.
- **Ginkgo** Hundreds of studies substantiate the multifaceted effects of *Ginkgo biloba* in promoting healthy circulatory and neurological function.
- **Chlorophyllin** Scientific studies indicate that chlorophyllin may protect against environmentally induced damage to DNA.
- **Selenium** Some scientific evidence suggests that consumption of selenium may reduce the risk of certain forms of cancer. However, the FDA has determined that this evidence is limited and not conclusive. Selenium's effects in boosting glutathione are well-established.

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

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

Contains soybeans, peanuts, and sesame.

Caution: If you are taking anti-coagulant or anti-platelet medications, or have a bleeding disorder, consult your healthcare provider before taking this product. Individuals with in-born errors of copper metabolism (e.g. Wilson's disease) should avoid daily, chronic use of this product.

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



Just one softgel of Super Booster supplies:

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

Gustavo Tovar Baez, MD, operates the Life Extension Clinic in Caracas, Venezuela. He is the first physician in Caracas to specialize in anti-aging medicine.

Ricardo Bernales, MD, is a board-certified pediatrician and general practitioner in Chicago, IL, focusing on allergies, bronchial asthma, and immunodeficiency.

Thomas F. Crais, MD, FACS, a board-certified plastic surgeon, was medical director of the microsurgical research and training lab at Southern Baptist Hospital in New Orleans, LA, and currently practices in Sun Valley, ID.

John Crisler, DO, is an osteopathic physician and president of The All Things Male Center for Men's Health in Lansing, MI. Dr. Crisler is a distinguished leader in the field of anti-aging medicine for his new, advanced testosterone replacement therapy protocols that have changed the way physicians all over the world treat their patients.

William Davis, MD, is Medical Director of Milwaukee Heart Scan and developer of the web-based initiative, Track Your Plaque, the only heart disease prevention program that uses the new CT heart scans to detect, track, and control coronary plaque.

Martin Dayton, MD, DO, practices at the Sunny Isles Medical Center in North Miami Beach, FL. His focus is on nutrition, aging, chelation therapy, holistic medicine, and oxidative medicine.

Sergey A. Dzigan, MD, PhD, was formerly chief of cardiovascular surgery at the Donetsk Regional Medical Center in Donetsk, Ukraine. Dr. Dzigan's current primary interests are anti-aging and biological therapy for cancer, cholesterol, and hormonal disorders.

Patrick M. Fratellone, MD, is the founder and executive Medical Director of Fratellone Associates. He completed his Internal Medicine and Cardiology Fellowship at Lenox Hill Hospital in 1994, before becoming the Medical Director for the Atkins Center for Complimentary Medicine. He completed his Integrative Medicine Fellowship at the University of Arizona in 2005 under the directorship of Andrew Weil, MD. He is also an author and radio host.

Carmen Fusco, MS, RN, CNS, is a research scientist and clinical nutritionist in New York City who has lectured and written numerous articles on the biochemical approach to the prevention of aging and degenerative diseases.

Norman R. Gay, MD, is proprietor of the Bahamas Anti-Aging Medical Institute in Nassau, Bahamas. A former member of the Bahamian Parliament, he served as Minister of Health and Minister of Youth and Sports. He is a three-time chairman of the Executive Committee of the PanAmerican Health Organization in Washington, DC.

Mitchell J. Ghen, DO, PhD, holds a doctorate in holistic health and anti-aging, and serves on the faculty of Medicine at the Benemérita Universidad Autónoma De Puebla, Mexico, as a Professor of Cellular Hemopoetic Studies. He is the author of *The Ghen and Rains Guide to Compounding Pharmaceuticals* and *The Advanced Guide to Longevity Medicine*.

Gary Goldfaden, MD, is a clinical dermatologist and a lifetime member of the American Academy of Dermatology. He is the founder of Academy Dermatology of Hollywood, FL, and COSMESIS Skin Care. He specializes in natural approaches to aging and rejuvenation of the skin.

Miguelangelo Gonzalez, MD, is a certified plastic and reconstructive surgeon at the Miguelangelo Plastic Surgery Clinic, Cabo San Lucas.

Garry F. Gordon, MD, DO, is a Payson, AZ-based researcher of alternative approaches to medical problems that are unresponsive to traditional therapies. He is president of the International College of Advanced Longevity Medicine.

Richard Heifetz, MD, is a board-certified anesthesiologist in Santa Rosa, CA, specializing in the delivery of anesthesia for office-based plastic/cosmetic surgery, chelation therapy, and pain management.

Roberto Marasi, MD, is a psychiatrist in Brescia and in Piacenza, Italy. He is involved in anti-aging strategies and weight management. His interests include the prevention of cardiovascular and metabolic diseases and the relationship between nutrition, inflammation, oxidative stress, aging, and degenerative diseases.

Maurice D. Marholin, DDC, DO, is a licensed osteopathic physician and chiropractor. He completed a NIH Fellowship in Nutrition at UAB. Board certified in Family Medicine with a CNS in Nutrition. He is currently the Medical Director at Leon County Jail. He is responsible for 1,100-1,200 inmates' medical needs.

Philip Lee Miller, MD, is founder and medical director of the Los Gatos Longevity Institute in Los Gatos, CA. His practice is dedicated to anti-aging medicine, focusing on bioidentical natural hormone replacement, nutritional medicine, complex lipid disorders, and stress management. He is a diplomate of the American Board on Anti-Aging Medicine.

Michele G. Morrow, DO, FAAFP, is a board-certified family physician who merges mainstream and alternative medicine using functional medicine concepts, nutrition, and natural approaches. Dr. Morrow is an accomplished clinician, medical researcher, author, and lecturer.

Herbert Pardell, DO, FAAIM, practices internal medicine at the Emerald Hills Medical Center in Hollywood, FL, and specializes in anti-aging, chelation, hormone replacement, and complementary medicine. He is a medical director of the Life Extension Foundation.

Lambert Titus K. Parker, MD, practices internal medicine at the Integrative Longevity Institute of Virginia in Virginia Beach, VA.

Ross Pelton, RPh, PhD, CCN, is director of nutrition and anti-aging research for Intramedicine, Inc. He has authored six books and teaches continuing education courses for health professionals on a wide variety of health topics.

Patrick Quillin, PhD, RD, CNS, is a clinical nutritionist in Carlsbad, CA, and formerly served as vice president of nutrition for Cancer Treatment Centers of America, where he was a consultant to the National Institutes of Health. He has written 15 books on health, including *Beating Cancer with Nutrition*.

Allan Rashford, MD graduated the University of Iowa Medical School and did his internship, residency and fellowship in Pulmonary Medicine in New York City. Upon completing medical training, he became Chief of Medicine at St. Francis Hospital in South Carolina, and was later named President of the Charleston Medical Society.

Marc R. Rose, MD, practices ophthalmology in Los Angeles, CA, and is president of the Rose Eye Medical Group. He is on the staffs of Pacific Alliance Medical Center, Los Angeles, and other area hospitals.

Michael R. Rose, MD, a board-certified ophthalmologist with the Rose Eye Medical Group in Los Angeles, CA, is on the staffs of the University of Southern California and UCLA.

Ron Rothenberg, MD, is a full clinical professor at the University of California San Diego School of Medicine, and founder of California HealthSpan Institute in San Diego, CA. Dr. Rothenberg is an internationally recognized clinician, researcher, lecturer, and educator in preventive and anti-aging medicine.

Roman Rozenzwaig, MD, is a pioneer in research on melatonin and aging. He practices in Montreal, Canada, as research associate at Montreal General Hospital, Department of Medicine, McGill University.

Carol Ann Ryser, MD, FAAP, is medical director of Health Centers of America in Kansas City, MO, and focuses on pediatrics and mental health.

Michael D. Seidman, MD, is the regional coordinator of otolaryngology-head and neck surgery for the Bloomfield satellite of Henry Ford Health System (HFHS), Detroit, MI, co-director of the Tinnitus Center, and co-chair of the Complementary/Alternative Medicine Initiative for HFHS.

Ronald L. Shuler, BS, DDS, CCN, LN, is involved in immunology for the prevention and treatment of cancer, human growth hormone secretagogues, and osteoporosis.

Herbert R. Slavin, MD, is medical director of the Institute of Advanced Medicine in Lauderhill, FL, specializing in anti-aging medicine, disease prevention, chelation therapy, and natural hormone replacement therapy.

R. Arnold Smith, MD, is a clinical radiation oncologist who specializes in using immunotherapy to enhance the safety and efficacy of conventional cancer therapies.

Stephen L. Smith, MD, Richland, WA, focuses on treating allergies, and is a member of the American Society for Lasers in Medicine and Surgery.

Stephen Strum, MD, is a medical oncologist specializing in the treatment of prostate cancer. He is co-founder and past medical director of the Prostate Cancer Research Institute. Currently, he directs a practice for prostate cancer patients in Ashland, OR.

Javier Torres, MD, is a member of the American Academy of Physical Medicine and Rehabilitation, and is on the medical staffs of Sunrise Hospital, Desert Springs Hospital, Valley Hospital, and Mountain View Hospital, all in Las Vegas, NV.

Paul Wand, MD, Fort Lauderdale, FL, is a clinical neurologist with special expertise in treating and reversing diabetic peripheral neuropathy and brain injuries from various causes.

Charles E. Williamson, MD, Boca Raton, FL, focuses on anti-aging, longevity, and pain management.

Jonathan V. Wright, MD, is medical director of the Tahoma Clinic in Renton, WA, and a board member of the Vitamin C Foundation and the American Preventive Medical Association, among many other groups.

SCIENTIFIC ADVISORY BOARD



Örn Adalsteinsson, PhD holds a master's and doctorate from the Massachusetts Institute of Technology (MIT). He has specialized in human therapeutics including vaccines, monoclonal antibodies, product development, nutraceuticals, formulations, artificial intelligence, hormones, and nutritional supplementation. He has also authored articles and contributed to peer-reviewed publications, and served as an editor for the *Journal of Medicinal Food*.



Russell L. Blaylock, MD, is a board-certified neurosurgeon, author, and lecturer. He recently retired from his neurosurgical practice to devote his time to nutritional studies and research. He has written numerous journal articles and three books (*Excitotoxins: The Taste That Kills*, *Health and Nutrition Secrets That Can Save Your Life*, and *Natural Strategies for the Cancer Patient*), and currently publishes a monthly nutrition newsletter, *The Blaylock Wellness Report*.



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



Eric R. Braverman, MD, is director of the Place for Achieving Total Health (PATH Medical and the PATH Foundation) in New York City. Dr. Braverman received his BA from Brandeis University Summa Cum Laude/Phi Beta Kappa and his MD from New York University Medical School with Honors. He is the author of *Younger You* (2006) and *Younger Thinner You* (2009) and of over 100 research papers and is Clinical Assistant Professor of Integrative Medicine in the Department of Neurosurgery at Cornell Weill Medical College, as well as a lecturer on mild cognitive decline.



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



Deborah F. Harding, MD is founder of the Harding Anti-Aging Center. She is triple board-certified in Internal Medicine, Sleep Disorder Medicine, and Anti-Aging Medicine. She also earned the Cenegenics certification in Age Management Medicine. She is a faculty member of the new University of Central Florida Medical School.



Steven B. Harris, MD, is president and director of research at Critical Care Research, a company that grew out of 21st Century Medicine in Rancho Cucamonga, CA. Dr. Harris participates in groundbreaking hypothermia, cryothermia, and ischemia research. His research interests include antioxidant and dietary-restriction effects in animals and humans.



Stanley W. Jacob, MD, is Gerlinger Distinguished Professor, Department of Surgery, Oregon Health and Science University. He has authored 175 scientific articles and 15 books, and holds 3 patents, including the initial patent on the therapeutic implications of dimethyl sulfoxide (DMSO).



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



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



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



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



Robert Pastore, PhD, CNS is a clinical nutritionist practicing in New York City. Due to his thorough nature and focus on organic chemistry and biochemistry his colleagues have termed his practice forensic nutrition. He is a member of Harvard Medical School Postgraduate Association, the American College of Nutrition, New York Academy of Sciences, and the American Association of Pharmaceutical Scientists.



Stephen B. Strum, MD, is a medical oncologist who has specialized in prostate cancer treatment since 1983. He is co-founder and past medical director of the Prostate Cancer Research Institute. Currently, he directs a practice for prostate cancer patients in Ashland, OR.



Jonathan Treasure, AHG, MNIMH, is a British medical herbalist at the Centre for Natural Healing in Ashland, OR. Originally a medical sciences graduate from Cambridge University, he studied herbal medicine at the UK School of Phytotherapy. His clinical specialty is integrative botanical medicine for cancer, and his principal research interest is herb-drug interactions.



Jonathan V. Wright, MD, is medical director of the Tahoma Clinic in Renton, WA. He received his MD from the University of Michigan and has taught natural biochemical medical treatments since 1983. Dr. Wright pioneered the use of bioidentical estrogens and DHEA in daily medical practice. He has authored 11 books and publishes *Nutrition and Healing*, a monthly newsletter with a worldwide circulation of more than 100,000.

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How Much Curcumin Are You Absorbing?

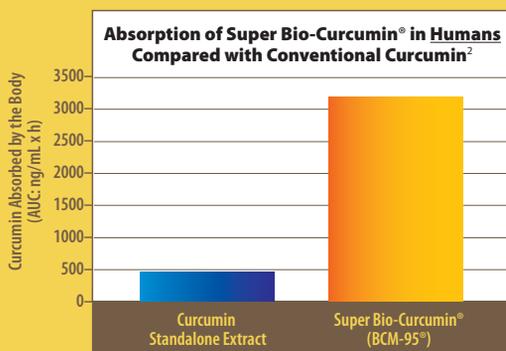


Chart 1. Super Bio-Curcumin® (BCM-95®) showed 6.9 times greater bioavailability (absorption and sustainability over 8 hours) in humans compared with conventional curcumin (as measured by the area under the curve [AUC] in a plot of blood levels against time, that is, the total amount of curcumin absorbed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

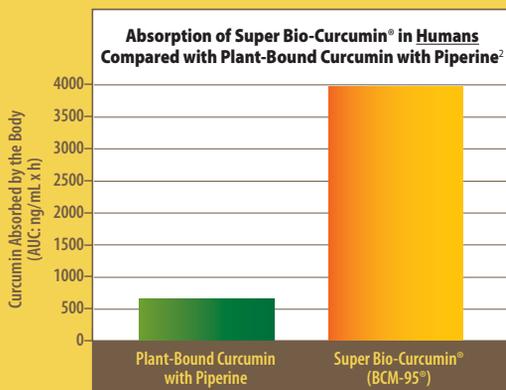


Chart 2. Super Bio-Curcumin® (BCM-95®) showed 6.3 times greater bioavailability (absorption and sustainability over 8 hours) in humans compared with plant-bound curcumin with piperine (as measured by the area under the curve [AUC] in a plot of blood levels against time, that is, the total amount of curcumin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

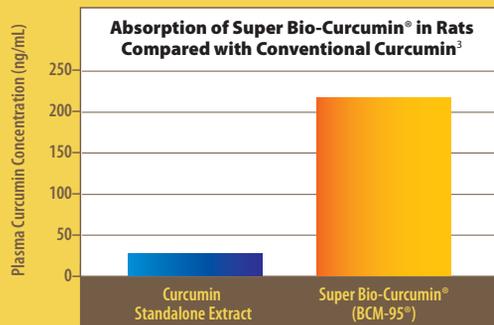


Chart 3. Bioavailability in rats fed with BCM-95® is 7.8 times higher than conventional curcumin.

On June 15, 2010, the **US Patent Office** awarded a patent on a curcumin compound that **absorbs up to seven times better** than conventional curcumin products.

This patented curcumin is what **Life Extension®** members have been getting in the **Super Bio-Curcumin®** product for last several years. Not only does this novel turmeric compound provide far **greater peak blood levels**, but the curcumin remains in the blood almost **twice as long** compared with conventional supplements.

Scientists continue to be impressed with the remarkable ability of curcumin and turmeric constituents to suppress inflammatory factors and promote healthy cell division. The problem was that conventional curcumin is poorly *absorbed* into the bloodstream.

As can be seen in the remarkable studies on the left, just **one 400 mg** capsule of the **patented** turmeric compound used in **Super Bio-Curcumin®** can provide curcumin blood levels equivalent to ingesting **2,500- 2,800 mg** of commercial curcumin.

What's more, the enhanced delivery complex contained in **Super Bio-Curcumin®** provides other beneficial turmeric compounds, thus making this the most cost-effective way to supplement with this critically important nutrient.

SUPER BIO-CURCUMIN® WITH BCM-95®



Item #00407

Life Extension members have had access to this superior and now patented BCM-95® curcumin compound for many years. A bottle containing 60 **Super Bio-Curcumin® with BCM-95®** capsules retails for \$35. If a member buys four bottles, the price is reduced to just **\$24** per bottle. Each bottle will last most members two months. *Contains rice.*

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

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

FDA Delay of One Drug Causes 82,000 Lost Life-Years



BY WILLIAM FALOON

Reviewed and Critiqued by
Stephen B. Strum, MD, FACP,
Medical Oncologist Specializing
in Prostate Cancer Since 1983



In 2004, I wrote an article describing how Americans die needlessly because of the FDA's delay in approving lifesaving drugs.¹

One example of a delayed therapy I cited was Provenge[®], which in the year 2002 had demonstrated improved survival in prostate cancer patients.²

In 2007, Dr. Stephen Strum and I co-authored an article showing how enormous numbers of lives could be spared if scientists were liberated from oppressive FDA over-regulation. We described several cancer drugs that should have been approved including Provenge[®], which by the year 2007 had extended survival in several clinical studies.³

In 2010, the FDA finally approved Provenge[®].⁴ This was after still another FDA-mandated clinical trial documented the efficacy of this therapy.

As you're about to read, the FDA's eight-year delay in approving Provenge[®] has resulted in a horrific number of prostate cancer victims prematurely dying!

AS WE SEE IT

How Effective Is Provenge®?

Once the FDA finally approved Provenge® in April 2010, the news media hailed it as a miracle new cancer therapy. What the media failed to convey was the fact that Provenge® was not new. It had been discovered almost a decade earlier. Despite the impressive study results you are about to read, the FDA denied it for eight long years.

In an analysis from the first study in 2002, Provenge®-treated men with a less aggressive prostate cancer (Gleason score 7 or less) were eight times more likely to live six months without disease progression compared to placebo.²

After 30 months, these same patients receiving Provenge® were 3.7 times more likely to be alive. This translates into **53%** of the Provenge® group surviving compared to only **14%** of the placebo group. The Provenge® group also remained pain-free twice as long



on average as the placebo group.^{2,3}

The FDA refused to recognize these findings and ordered the company to conduct more clinical studies. We at Life Extension® were livid at the time over the FDA's decision to deny prostate cancer patients access to this therapy.

Fast forward to 2005, and the results of a new clinical study showed that **three times** as many advanced prostate cancer patients who received Provenge® were alive compared to patients receiving a placebo.^{5,6} This study evaluated 127 patients with prostate cancer that did not respond to androgen-deprivation therapy. Cancer experts consider this patient subset to have a dismal prognosis, with most dying of the disease within a few years. In this Provenge® study, **34%** of the patients receiving Provenge® were still alive after three years compared to only **11%** of men who were randomly assigned a placebo.⁵ The FDA again refused to approve Provenge®, even with this kind of data in hand.

In the most recent study on advanced prostate cancer patients, Provenge® prolonged median survival by 4.5 months and produced a greater than **threefold increase** in survival at **36 months** compared to placebo.⁷

As I'll explain later, any improvement in survival in *advanced* cancer cases is viewed favorably as these patients have already failed grueling conventional therapies. We postulate that if used earlier in the disease process and in combination with other non-toxic therapies, Provenge® will be far more effective.

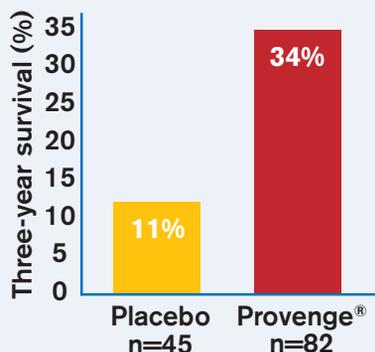
Based on this latest study and in conjunction with the other prior favorable studies, the FDA approved Provenge®—**eight years later** than it should have!

How Many Life-years Lost Because of FDA's Delay?

Prostate cancer killed **27,360** American men in 2009.⁸ This is down from prior years where it used to kill around **30,000** Americans. Earlier diagnosis is one reason for this decline. Far fewer men are diagnosed with advanced prostate cancer with bone metastases today because of PSA testing.

In determining how many **human life-years** have been lost because of the FDA's delay in approving Provenge®, we would come up with very high numbers if we only used data from the most favorable studies.

Provenge® Extends Prostate Cancer Survival



Men who received the prostate cancer vaccine Provenge® were three times more likely to survive for three years, compared with men who received placebo.⁵

Instead, we choose to use the least favorable data that looked only at median survival improvement in those with advanced stage prostate cancer who were no longer responding to conventional therapy.

We took the low number of 27,360 men who died of prostate cancer in 2009 and multiplied it times the 4.5 months of improved survival demonstrated in the latest study. The total number of **human life-years** lost **each year** the FDA delayed approving Provenge® comes out to **10,260**.

Multiply the **eight years** the FDA delayed approving Provenge®, and the total number of lost life-years is a startling **82,080**. To state this statistic differently, **82,080** lost life-years translates to **1,066** entire lives lost. This calculation is based on taking the 82,080 lost life-years divided by average male life expectancy of 77 years.

The federal government refuses to consider Life Extension's long-standing recommendation of making FDA approval voluntary, as opposed to the compulsory process it is today.

If prostate cancer victims had access to Provenge® when it first demonstrated efficacy in 2002, 82,000 human life-years could have been spared.

Provenge® Is Just One of Many Delayed Drugs

The cover story of the September 2007 issue of *Life Extension Magazine*® was titled "Life-saving Cancer Drugs Rejected by the FDA." In that issue, we meticulously described several anti-cancer drugs (including Provenge®) the FDA had not yet approved. All of these drugs had substantial scientific evidence indicating efficacy.

We argued that since terminal cancer patients had no other options, they should be allowed access to these therapies.

In the case of Provenge®, an FDA advisory panel recommended it be approved in the year 2007.^{9,10} FDA bureaucrats, however, ignored scientists on this advisory panel and mandated that more studies be done.

FDA Delay Makes Provenge® Cost-prohibitive

Had Provenge® been made available in year **2002** like it could have been, it might be available at a more reasonable price today. The FDA's insistence on multiple redundant clinical studies will result in the therapy costing **\$93,000** per patient.

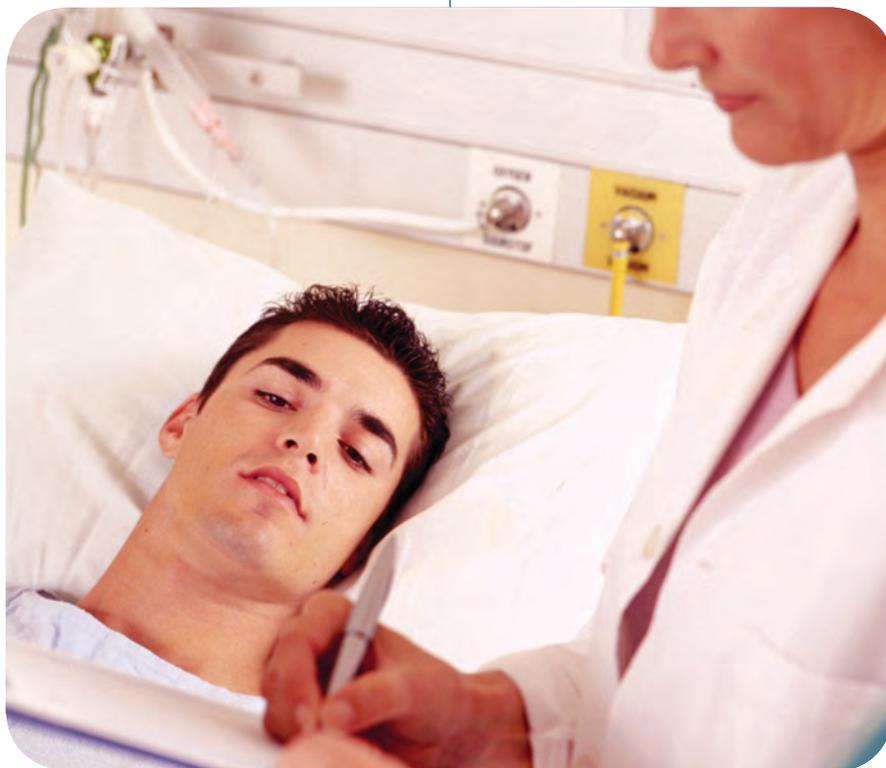
It is doubtful that all insurance companies will reimburse for Provenge® therapy. Either way, consumers will pay for the FDA's

delay in the form of higher medical insurance premiums, higher taxes, and/or having to pay for the drug out of pocket.

As we have stated many times, a key factor in today's health-care financial crisis is that medical progress and efficiency are obstructed by bureaucratic delays leading to hyper-inflated costs.

We Were Not the Only Ones Screaming for Provenge® to Be Approved

The FDA was put under enormous pressure to approve Provenge® ever since the first successful clinical study came out in the year 2002. After a second study showed even greater efficacy, prostate cancer support groups, scientific organizations, and even mainstream publications demanded that the FDA grant terminal patients the right to try this therapy.



AS WE SEE IT

The January 26, 2004 issue of the *Wall Street Journal* featured an editorial stating:

*“We know that it works, and we know why it works. In any rational regulatory environment, that would be reason to speed Provenge® to market.”*¹¹

By 2007, there was a revolt underway against the FDA for continuing to reject Provenge®, including threats by members of Congress to conduct a full scale investigation and lawsuits filed by patient support groups. FDA bureaucrats, however, steadfastly refused to budge (until April 29, 2010).¹²

Even though **Provenge®** therapy is now officially approved, it will only be available to treat about **2,000** patients over the next year.¹³ That’s because it requires specialized laboratories to be established throughout the United States to take each cancer patient’s blood and create an individualized vaccine. The problem is that more than 27,000 men will die of prostate cancer over the next twelve

months, meaning that fewer than **8%** of these fellow human beings will have access to Provenge® before they die.

How the FDA Stifles New Cancer Drug Development

When an experimental therapy prolongs life by only a few months in advanced cancer cases, the public often assumes the treatment is of little value.

The reason new cancer therapies often show mediocre results in clinical studies are FDA mandates that these new drugs only be tested in advanced-stage patients who have failed currently approved therapies. This creates a major obstacle because therapies that might cure cancer (or induce durable remissions) if used in earlier stages may be *ineffective* in advanced stages of the disease.

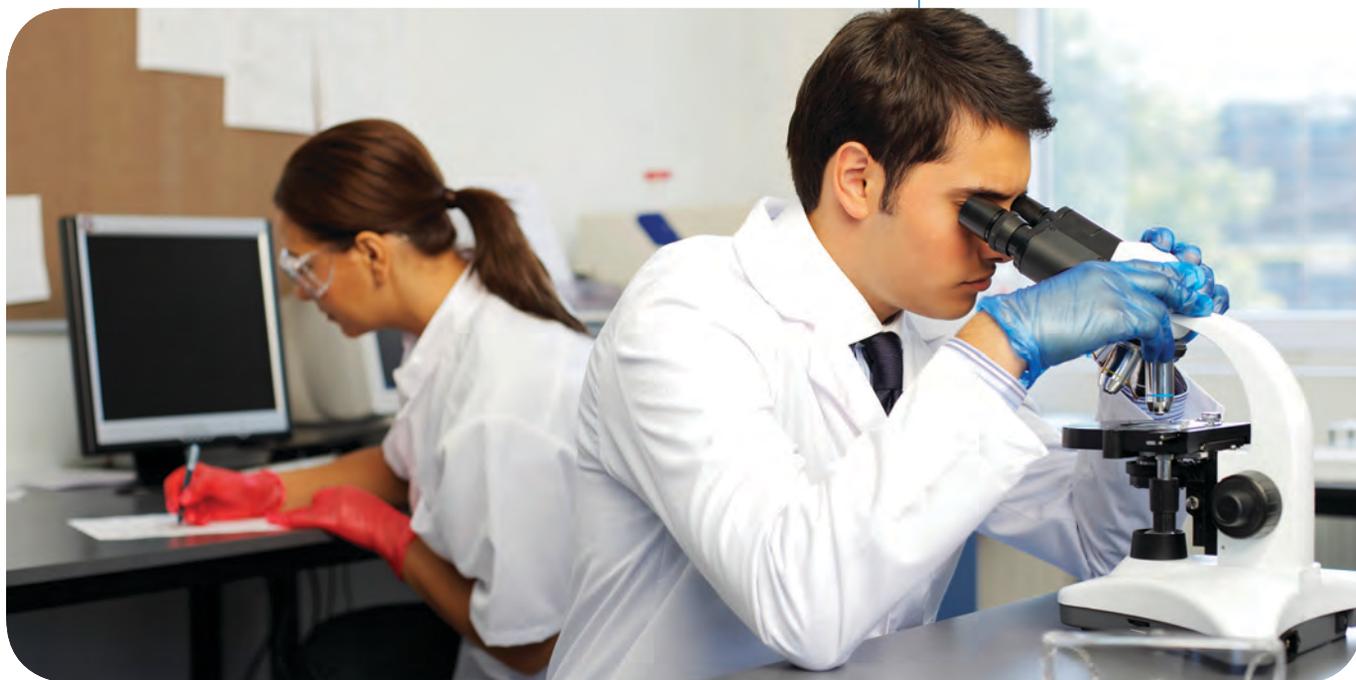
Once the drug is approved, however, it can be used (off-label) sometimes more effectively in treating earlier-stage disease patients. It can also be used in combination

with other therapies to yield better survival results, something that is usually not allowed in clinical trial designs the FDA tightly controls.

The reason that it is so difficult to kill advanced-stage, treatment-resistant cancers is that they have mutated and acquired multiple survival mechanisms. These advanced-stage cancer cells are thus extremely difficult to eradicate with any therapy.

Now that Provenge® has been approved by the FDA, innovative oncologists can prescribe it to early-stage prostate cancer patients whose cancers have not developed a resistance to androgen deprivation therapy. These earlier-stage patients may respond better than the advanced hormone refractory cases that the drug was tested on in the clinical trials.

When one understands the many *roadblocks* the FDA erects against promising cancer treatments, it becomes clear why more effective therapies have not been discovered to eradicate this insidious disease.





AS WE SEE IT

arguably be justified by the inefficient drug approval process that now exists.

Why Drugs Like Provenge® Take So Long to Approve

The fundamental problem with today's byzantine drug approval process is bureaucratic inefficiency and corruption.

What the public does not understand is that when a new therapy like Provenge® is being considered for approval, companies selling older (less effective) drugs have a tremendous incentive to block the better medicine. It can be quite cost-effective to persuade the FDA to erect barriers against newer therapies that compete with highly profitable existing drugs. Allegations ran rampant that the FDA delayed Provenge® because large pharmaceutical companies did not want to lose revenue from toxic chemotherapy drugs that advanced prostate cancer patients were forced to use in lieu of Provenge®.

Bureaucratic ineptitude has been highlighted by the failures of the Securities and Exchange Commission (SEC) to prevent widespread financial fraud.¹⁴ As you may know, even when outsiders conducted meticulous investigations and handed cases like that of Ponzi schemer Bernie Madoff to the SEC on a silver platter, the SEC did nothing to stop Madoff from defrauding more victims.

When complaints are made about FDA drug delays, a kneejerk response from some in Congress is "we need to give the FDA more money." It is regrettable that politicians can't see past the simple fact that providing more money and power to incompetent and corrupt agencies results in more incompetence and **corruption**.

In an ideal setting, Provenge® would have been made available to those who wished to "opt-out" of the FDA's regulatory stranglehold, and we would have learned long ago how effective Provenge® therapy was against a wide range of prostate cancers.

At this point, we don't even know how effective Provenge® will be outside the clinical study setting. Not all drugs shown effective in tightly controlled studies are as efficacious in the real-world, which is another reason to get drugs out faster in order to enable those dealing with real-world cancer patients to ascertain safety and efficacy.

FDA Interference Worse Than What Most Experts Think

For the past 30 years, *Life Extension* has identified effective medications that languished too long in the FDA's archaic approval process.

When lifesaving new drugs are delayed, the inevitable consequence is needless human suffering and death. An equally insidious

problem is the *chilling* effect that bureaucratic roadblocks have on the development of better drugs that might cure the disease.

Just imagine the difficulty of raising the tens of millions of dollars needed to get a new cancer drug into the approval pipeline when prospective investors see the FDA delay a drug with documented efficacy for eight years, as was done with Provenge®.

Another problem with the FDA's unpredictable approval pattern is the outrageous cost of cancer drugs that do make it to market. Insurance companies do not always pay for these new drugs, thus forcing desperate cancer victims to pay out-of-pocket for new drugs that can exceed \$12,000 per month. The media has reported on heart-wrenching stories of cancer patients who choose to die rather than condemn their families into bankruptcy in order to pay these costs.

It's easy to point fingers at drug companies for charging such extortionist prices, but the harsh reality is that getting these medications approved by the FDA is so costly and risky that the high prices can

AS WE SEE IT

This Is No Longer a Debatable Issue

Provenge® is by no means the first drug *Life Extension* recommended years or decades before the FDA permitted it to be sold to Americans. For example, we fought for nearly two decades to force the FDA to approve *ribavirin* as an adjuvant treatment for hepatitis C and *low-dose aspirin* for heart attack prevention. In both cases, we faced criminal investigations by FDA agents who felt it more pro-

Potential of Provenge® Recognized Long Before FDA Approval



In **2002**, Stephen Strum, MD and Donna Pogliano, the significant other of a man with prostate cancer, published a book titled *The Primer on Prostate Cancer* (Life Extension Media, 2002). Within that outstanding guide to prostate cancer diagnosis and management, a section was devoted to “Treatments on the Horizon” (page 160). The very first treatment discussed in detail was Provenge®.

We now know that if Americans had the freedom to try Provenge® as early as the year 2002, countless numbers of premature deaths could have been prevented. (*The Primer on Prostate Cancer* is still in print and available from Life Extension.)

ductive to put us in jail rather than approve these lifesaving therapies.

Sadly, most of the drugs Life Extension has identified as having probable efficacy are never allowed on the American market because the sponsor company runs out of money jumping through the FDA’s impossibly high regulatory hurdles.

The FDA now says (in **2010**) that Provenge® is effective in prolonging survival in men with advanced prostate cancer. That means the drug was also effective in the year **2002**, when the FDA first suppressed it.

With Provenge® (and many other drugs), there is nothing more to debate. The FDA’s delay of this one drug caused the equivalent loss of over **1,000 entire lives**. This is the same as terrorists killing **1,000 newborn babies**, yet no one in the media even suggested that the FDA was tardy in approving Provenge®. Americans can no longer tolerate this ongoing atrocity, either from a financial or morality standpoint.

What You Can Do to Stop Needless Cancer Deaths

Scientists have identified novel ways of treating cancer, but too little of this new technology is being used in clinical practice. When new discoveries are made, drug companies spend years seeking a patent, and then more years carrying the drug through the cumbersome bureaucratic approval process. A major reason so many cancer patients die today is an antiquated regulatory system that causes effective therapies to be delayed (or suppressed altogether).

This system must be changed if the **1,500** American cancer patients who perish each day are to have a realistic chance of being saved.

Our longstanding proposal has been to change the law so that anyone can opt out of the FDA’s umbrella of “protection.” This approach will allow companies to sell drugs that have demonstrated safety and a reasonable likelihood of effectiveness, which are clearly labeled “**Not Approved by the FDA.**” Patients who wish can still use only FDA-approved drugs, while those willing to take a risk, in consultation with their doctors, will be allowed to try drugs shown to be safe that are still not approved.

We believe that this initiative will result in a renaissance in the practice of medicine similar to the computer technology revolution of the past three decades. In the liberated environment we propose, many lethal diseases will succumb to cures that are less expensive than is presently the case. And greater competition will help eliminate the health care cost crisis that exists today.

Today’s broken system results in terminally ill people learning of scientific discoveries that might well cure their disease, but sadly hearing their newscaster say the therapy is years away from FDA approval. We think that seriously ill people, in consultation with their doctors, should be able to make up their own minds about what drugs they are willing to try.

Tell Congress You Want the Law Changed!

For the past three decades, *Life Extension* has sought to expose an insidious drug approval process that causes human beings to die, even though effective therapies to treat their diseases already exist.

The FDA is able to suppress innovative therapies because the public has failed to demand that our elected officials rein in the FDA's arbitrary authority. The first step in changing today's outmoded system is to communicate the urgent need for change to Congress.

A bill titled the **Compassionate Access Act of 2010** (H.R. 4732) has been introduced into the House of Representatives.¹⁶ This bill would amend the Food, Drug, and Cosmetic Act to create a new

conditional approval system for drugs, biological products, and devices for seriously ill patients.

While this bill will not enable patients to "opt-out" of the FDA's regulatory stranglehold, it is an important first step that will demonstrate that human lives can be spared if earlier access to experimental therapies is permitted.

I urge all Life Extension supporters to use our convenient Legislative Action Center (www.lef.org/lac) to ask your Congressional Representative to co-sponsor the

Compassionate Access Act of 2010 (H.R. 4732). Passage of this legislation will enable cancer patients (and others with serious diseases) to obtain therapies far enough along in the clinical trials process to be deemed safe, but not yet approved by the FDA.

We at Life Extension have long contended that any person with a serious illness should have the individual right to choose therapies that have not yet received official FDA approval.

The Abigail Alliance: A Relentless Campaign to Reform the FDA

The **Compassionate Access Act of 2010** has been introduced into Congress based on the relentless efforts of an organization called **The Abigail Alliance**.

This non-profit organization was founded based on the heart-wrenching events surrounding a young girl (Abigail Burroughs) who was denied access to what the FDA now admits is an effective cancer drug.

Abigail Burroughs was diagnosed at age 19 with a squamous cell carcinoma that had invaded her neck and lungs. Abigail was an honor student and high school athlete, a confident yet humble person who was wise beyond her years. And she was compassionate, devoting much of her young life to charity work, making beds at homeless shelters and creating a free tutoring program for 50 families who couldn't afford tutors. Abigail had a great love of life and a deep respect for all beings.

Not long after her diagnosis, the Burroughs family learned of an investigational cancer drug that showed good response in early trials. Abigail's prominent oncologist at Johns Hopkins Hospital believed the drug had a significant chance of saving her life. But every effort on the part of her family, physician, and supporters to procure the drug for Abigail failed. She was ineligible for a clinical trial and the drug company couldn't provide it for her for compassionate use. The FDA was unmoved by her life-and-death situation.

In November 2000, Abigail was recovering from a round of chemotherapy and radiation treatment when

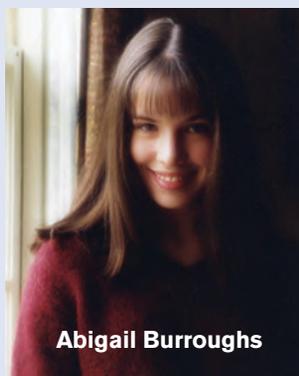
she said to her father, "Dad, if I make it, I'd like you and I to devote our lives to helping people with cancer and other illnesses where there's an unmet need." After seven months of battling to acquire the experimental drug for Abigail, she died, her young life tragically cut short by an indifferent system that has cost an untold number of lives. The drug was later approved by the FDA as being effective against her type of cancer.

Hours after she died, through his tremendous grief, her father Frank Burroughs realized that the inability of seriously ill patients to obtain effective drugs still under study was a critical unmet need. His daughter had wanted to help not only herself, but others like her, and Burroughs knew then that he had to continue fighting the system.

Burroughs explained, "Hundreds of thousands of Americans die every year awaiting drug approval, a catastrophe of immense proportions. I said to myself, 'Why should I quit now? There are other people out there who are just as precious as Abigail! She had planted the seed of an idea. She was the embodiment of the unmet need. But we certainly weren't the only ones.'"

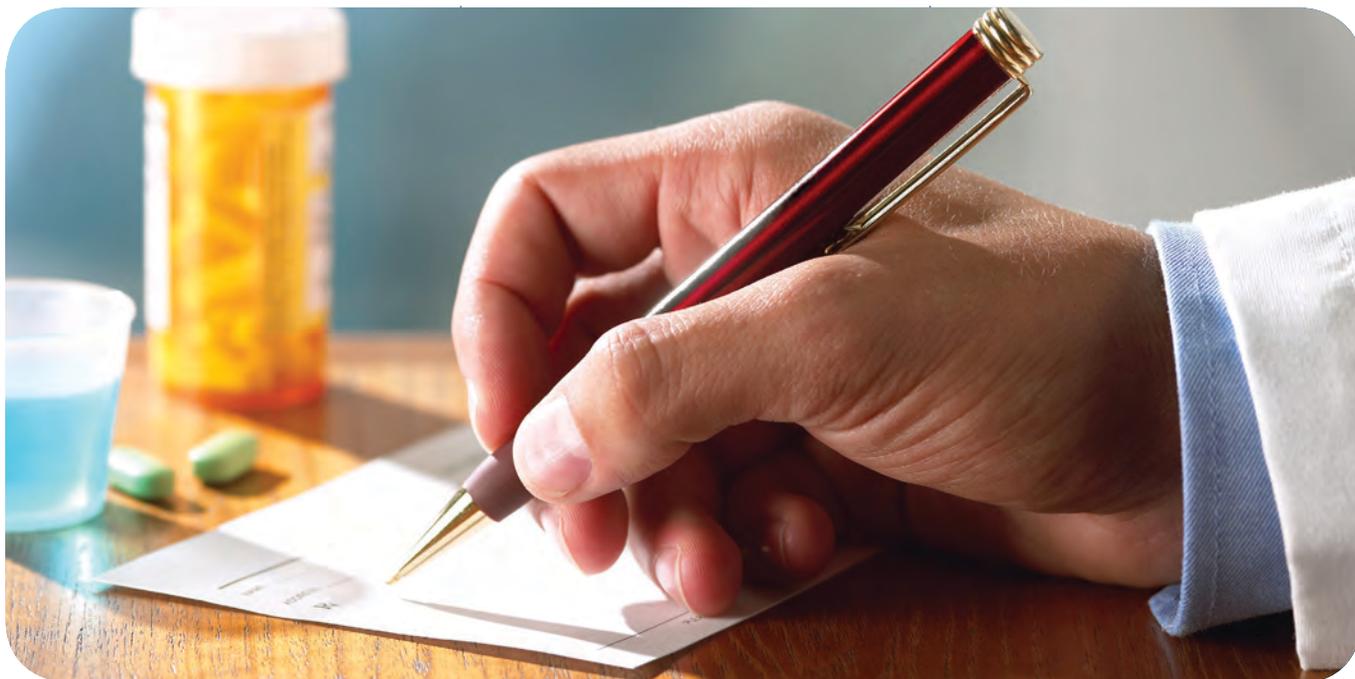
To learn more about the Abigail Alliance, log on to: <http://www.abigail-alliance.org/>

To ask your Representative to co-sponsor the **Compassionate Access Act of 2010** (H.R. 4732), log on to www.lef.org/lac



Abigail Burroughs

AS WE SEE IT



For the benefit of yourself and your loved ones, please use our convenient system to contact your Representative about the critical need to co-sponsor the **Compassionate Access Act of 2010**. You can easily contact your Representative today by logging on to www.lef.org/lac

For longer life,

William Faloon

Stephen B. Strum, MD, FACP

P.S. Those without a computer can copy and mail the letter that appears on the next page to their members of Congress.

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The Honorable: _____

On April 29, 2010, the FDA approved a prostate cancer therapy called Provenge®. The trouble is that Provenge® was shown to be efficacious as far back as 2002. Despite rancorous public outrage and the threat of a Congressional investigation, the FDA took eight years to approve this lifesaving drug. The FDA's delay in approving Provenge® has resulted in needless suffering and an enormous numbers of unnecessary deaths.

I am writing to ask that you co-sponsor the **Compassionate Access Act of 2010** (H.R. 4732) that will enable cancer patients (and those with other serious diseases) to obtain medications while they are pending final approval by the FDA. This bill would amend the Food, Drug and Cosmetic Act to create a new conditional approval system for drugs, biological products, and devices for seriously ill patients.

Consumers who wish to rely on the FDA can limit their choices to fully approved drugs only, while those willing to go outside the current regulatory quagmire (in consultation with their doctors) will be allowed to access experimental drugs via the carefully thought out conditional approval system outlined in the **Compassionate Access Act of 2010** (H.R. 4732).

Passage of **H.R. 4732** can result in a renaissance in the practice of medicine, similar to the computer technology revolution that has occurred over the past three decades. In this environment of reduced regulatory burden, many inexpensive cures will very likely be found for lethal diseases. And greater competition will help eliminate the health care cost crisis that exists today.

I am tired of reading about medical breakthroughs, only to be told that I will have to wait years before the therapy might become available. Since 1,500 Americans die of cancer each day, I consider the introduction and passage of the **Compassionate Access Act of 2010** an extremely high priority.

Seriously ill people have the fundamental right to make up their own minds about what drugs they are allowed to try, in consultation with their physicians. Please let me know that you will co-sponsor **Compassionate Access Act of 2010** (H.R. 4732) that will provide seriously ill Americans with quicker access to drugs that have been found to be safe and potentially effective, but have not yet received final FDA approval.

Sincerely,

Name:

Address:

City, ST, Zip:



Heart Healthy

SUPER omega-3 EPA/DHA

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

A Comprehensive Essential Fatty Acid Formula

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

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

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

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

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

Sesame lignans help guard against **lipid peroxidation**, thereby extending the stability of **DHA** in the body. These **lignans** also direct fatty acids toward pathways which can

help with inflammatory reactions. **Super Omega-3** provides standardized **sesame lignans** to enhance the overall benefits of the improved EPA/DHA fish oil blend.

Higher Potency Standardized Olive Fruit

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

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

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

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

EPA Pure+™ Extract (eicosapentaenoic acid)	1400 mg
DHA Pure+™ Extract (docosahexaenoic acid)	1000 mg
Olive Fruit Extract [standardized to 1.5% hydroxytyrosol (9 mg), 0.7% oleuropein (4.2 mg), 0.5% verbascoside (3 mg) and 0.23% tyrosol (1.4 mg)]	600 mg
Sesame seed lignan extract	20 mg



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

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

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

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

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

References:

1. *Public Health Nutr.* 2006 Dec;9(8A):1136-40.
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3. *J Am Diet Assoc.* 2005 Mar;105(3):428-40.
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11. *Anal Chim Acta.* 2007 Feb 5;583(2):402-10.
12. *J Agric Food Chem.* 2007 Sep 5;55(18):7609-14.
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Supportive but not conclusive evidence shows that consumption of EPA and DHA omega-3 fatty acids may reduce the risk of coronary heart disease.

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

MIGRA-EEZE™

Standardized Butterbur-Ginger-Riboflavin Formula



In Germany, doctors are recommending a natural extract from the herb **butterbur** to those who suffer from regular episodes of head cavity discomfort. In clinical trials in both Germany and the United States, **butterbur** reduced the incidence of head cavity discomforts by up to **61%**.^{1,2}

Butterbur's principal active constituent, **petasin**, reduces smooth muscle spasms and helps relax the constriction of cerebral blood vessels. **Butterbur's** ability to relax constricted arteries and smooth muscle may help control head cavity discomfort.

Life Extension's® **Migra-Eeze™** contains **butterbur** root extract standardized to provide 22.5 mg of **petasins** with each daily dose of two softgels. **Riboflavin** (vitamin B2) and **ginger** are included based on the ability of these nutrients to exert functional changes that may also guard against head cavity discomforts.

It is recommended that two softgels of Migra-Eeze™ be taken every day. Two softgels supply:

Butterbur (<i>Petasites hybridus</i>) C02 Extract (root) [standardized to 15% petasins (22.5 mg)]	150 mg
Riboflavin	380 mg
Riboflavin (as riboflavin 5' phosphate)	20 mg
Ginger (<i>Zingiber officinale</i>) Extract (root) [standardized to 5% gingerols (12.5 mg)]	250 mg

A 60-softgel bottle of **Migra-Eeze™** retails for \$29.50. If a member buys four bottles, the cost is reduced to just **\$19.75** per bottle—a savings of 33%!

Contains soybeans.

References

1. *Neurology*. 2004 Dec 28;63(12):2240-4.
2. *Int J Clin Pharmacol Ther*. 2000 Sep;38(9):430-5.



Item #00709

To order Migra-Eeze™, call 1-800-544-4440 or visit www.LifeExtension.com



IN THE NEWS

Even Modest Weight Gain Still Dangerous for Blood Vessels

A recent study performed by researchers at the Mayo Clinic discovered that putting on as little as 9 pounds of fat in the abdominal area puts even young, healthy people at risk for developing endothelial dysfunction.*

The study, led by Virend Somers, MD, PhD, a cardiologist at the Mayo Clinic, examined 43 healthy Mayo Clinic volunteers with a mean age of 29 years. The volunteers were then tested for endothelial dysfunction by measuring the blood flow through their arm arteries. Each person was assigned to either gain weight or maintain their weight for 8 weeks. The weight-gainers were then instructed to lose weight and were retested.

Of the volunteers who gained visceral fat (abdominal fat), researchers found that the regulation of blood flow through their arm arteries was impaired due to endothelial dysfunction. When the volunteers lost weight, the blood flow recovered.

“Endothelial dysfunction has long been associated with an increased risk for coronary artery disease and cardiovascular events,” Dr. Somers says. “Gaining a few pounds in college, on a cruise, or over the holidays is considered harmless, but it can have cardiovascular implications, especially if the weight is gained in the abdomen.”

—Jon Finkel

* Available at: <http://www.mayoclinic.org/news2010-rst/5919.html>. Accessed August 23, 2010.

Blueberries Protect Against Cardiovascular Disease Risk Factors in Metabolic Syndrome

An article published online in the *Journal of Nutrition* describes the outcome of a trial of obese men and women with metabolic syndrome which found a protective effect for blueberries against several cardiovascular disease risk factors.*

Researchers at Oklahoma State University randomized 4 men and 44 women to receive a beverage containing 50 grams freeze-dried blueberries or an equivalent amount of water daily for 8 weeks. At the treatment period's conclusion, those who received blueberries had greater decreases in systolic and diastolic blood pressure compared to the controls. This group also experienced significantly greater reductions in plasma oxidized low-density lipoprotein (ox-LDL) and markers of oxidative stress.

“Our study findings suggest a cardioprotective role of dietary achievable doses of blueberries in men and women with metabolic syndrome, which includes a significant decrease in systolic and diastolic blood pressures and plasma ox-LDL and lipid peroxidation,” the authors write.

Editor's note: A convenient year-round option is an encapsulated blueberry extract supplement.

—D. Dye

* Available at: <http://jn.nutrition.org/cgi/content/abstract/140/9/1582>. Accessed August 23, 2010.

Greater Fiber Intake Associated with Reduced Heart Disease Mortality

The *Journal of Nutrition* reports a reduction in the risk of dying from coronary heart disease (CHD) among men and women who consumed high fiber diets.*

Researchers evaluated data from 58,730 participants in The Japan Collaborative Cohort Study for Evaluation of Cancer Risks, carried out between 1988 and 1990. Follow-up was conducted until the end of 2003, during which 422 deaths from CHD, 983 from stroke and 675 from other cardiovascular disease were documented.

For men whose total, insoluble, and soluble fiber intakes were among the highest one-fifth of participants, there was a lower risk of dying of heart disease compared to those whose intakes were among the lowest fifth. Similar risk reductions were observed among women.

“Our results constitute supporting evidence that higher intake of both insoluble and soluble fiber, especially fruit and cereal fibers may contribute to the prevention of CHD in Japanese men and women,” the authors conclude.

Editor’s note: The authors list fiber’s cholesterol- and blood pressure-reducing effects, as well as its ability to improve insulin sensitivity, inhibit post-meal rises in glucose and triglycerides, and increase fibrinolytic activity, as mechanisms that prevent or delay the development of atherosclerosis.

—D. Dye

* Available at: <http://jn.nutrition.org/cgi/content/abstract/140/8/1445>. Accessed August 23, 2010.

Resveratrol-containing Extract Suppresses Inflammation in Human Trial

A report published online in *The Journal of Clinical Endocrinology & Metabolism* reveals the finding of a trial conducted at Kaleida Health’s Diabetes-Endocrinology Center of Western New York of an anti-inflammatory benefit for an extract of *Polygonum cuspidatum*, which contains resveratrol.*

Twenty healthy participants were randomized to receive a dose providing 40 milligrams resveratrol per day or a placebo for 6 weeks. Blood samples were analyzed for indices of oxidative and inflammatory stress, in addition to other factors.

The research team found a reduction in reactive oxygen species, which are unstable molecules that provoke oxidative stress and inflammation, in participants who received resveratrol. The resveratrol group also experienced a decrease in the inflammation protein tumor necrosis factor-alpha as well as inflammation markers interleukin-6 and C-reactive protein (CRP). “These actions, demonstrated for the first time in vivo, are consistent with potential anti-atherogenic and anti-aging effects,” the authors write.

Editor’s note: It is possible that *Polygonum cuspidatum* has other beneficial compounds in addition to resveratrol.

—D. Dye

* *J Clin Endocrinol Metab.* 2010 Jun 9.



Calorie Restriction, Exercise Rejuvenate Nerve Connections

An article published in the *Proceedings of the National Academy of Sciences* reveals a mechanism for exercise and calorie restriction in delaying some of the effects of aging.*

Joshua R. Sanes and his Harvard University colleagues compared a synapse known as the skeletal neuromuscular junction in young adult and aged mice. Synapses are the connections that exist between nerve cells or nerves and the muscles that they control. In young neuromuscular synapses, nerve endings match up with their receptors on muscle fibers, enabling efficient transmission of brain signals to the muscle. However, in aged synapses, nerve shrinkage can reduce contact with muscle receptors, leading to muscle wasting.

Dr. Sanes’ team found a variety of age-related differences between the synapses of the young and old mice. However, animals fed a calorie-restricted diet had reductions in these age-associated changes. Additionally, one month of exercise performed by 22-month-old mice partially reversed changes that had already occurred.

Editor’s note: The findings raise the question of whether calorie restriction mimetics might elicit similar benefits.

—D. Dye

* *Proc Natl Acad Sci.* 2010 Aug 17.



Calcium Supplementation Linked with Decreased Trunk Fat Gain in Postmenopausal Women

In an article published in *Nutrition & Metabolism*, researchers at Creighton University report that calcium supplementation is associated with a reduction in trunk fat gain and increased maintenance of trunk lean mass in postmenopausal women compared to those who received placebos.* Trunk fat includes the abdominal fat mass that becomes increasingly difficult to control as humans age.

Lan-Juan Zhao, PhD and colleagues analyzed data from 870 women who participated in a trial designed to evaluate the effects of calcium and vitamin D on fractures. The women received one of the following daily regimens: 1,400 milligrams calcium from calcium citrate or 1,500 milligrams calcium from calcium carbonate per day plus a placebo; calcium plus 1,100 IU vitamin D3; or two placebos for up to four years.

Although body mass index did not differ significantly between the groups at the end of the study, all groups that received calcium gained less trunk fat and maintained a greater amount of trunk lean mass compared to the placebo groups.

Editor's note: The authors announce that "This is the first clinical trial in a population-based postmenopausal women cohort to observe that increasing calcium intake, in the form of non-dairy calcium supplementation, can prevent gain of fat mass and loss of lean mass."

—D. Dye

* Available at: <http://www.nutrition-and-metabolism.com/content/7/1/62>. Accessed August 23, 2010.

Policy Changes Needed to Improve Vitamin D Status

A review published in *Experimental Biology and Medicine* recommends the implementation of global policy changes in order to improve the amount of vitamin D that people receive. "Responsible medicine demands that worldwide vitamin D nutritional guidelines reflect current scientific knowledge about vitamin D's spectrum of activities," writes Anthony Norman of the University of California, Riverside and Roger Bouillon.*

The current US recommended daily intake of vitamin D is 200 IU for individuals up to the age of 50, 400 IU for those 51 to 70, and 600 IU for those over the age of 70. Dr. Norman and Dr. Bouillon suggest that an increase to 2,000 IU of vitamin D daily could reduce the incidence of a number of diseases. "It is high time that worldwide vitamin D nutritional policy, now at a crossroads, reflects current scientific knowledge about the vitamin's many benefits and develops a sound vision for the future," Dr. Norman observed.

Editor's note: The authors observe that increased sun exposure to elevate vitamin D levels is not a viable option for most individuals due to the carcinogenicity of ultraviolet B.

—D. Dye

* *Exp Biol Med.* 2010 Jul 28.

Vitamin C Improves Hospitalized Patients' Mood

In the journal *Nutrition*, researchers report the finding of an improvement in mood among acutely hospitalized patients supplemented with vitamin C.*

Thirty-two men and women hospitalized in medical and surgical wards were provided with 500 milligrams vitamin C or 1,000 international units (IU) vitamin D (as a placebo) twice per day for up to 10 days. Plasma vitamin C concentrations more than tripled in those who received the vitamin, and the group experienced a 34% average reduction in mood disturbance.

The authors observe that acutely hospitalized patients experience emotional distress for numerous reasons, and that psychological abnormalities are a feature of vitamin C deficiency. "Whether the explanation is tissue redistribution, insufficient vitamin C provision in a setting of increased catabolism, or both, a consequence of in-hospital hypovitaminosis C could be cerebral hypovitaminosis C with a resulting mood disorder that could be easily ameliorated or prevented by adequate vitamin C provision," they conclude.

Editor's note: While vitamin D levels rose among patients who received it, no improvement in mood was noted; however, the authors note that the short duration of the trial and low dose of vitamin D administered in this study would be insufficient to draw any conclusions concerning its effect.

—D. Dye

* Available at: <http://www.nutritionjrn.com/article/S0899-9007%2810%2900174-7/abstract>. Accessed August 18, 2010.





Does the Average American Diet Provide Adequate Nutrition?

“Nearly the entire US population consumes a diet that is not on par with recommendations,” is the conclusion of a report published online on August 11, 2010 in the *Journal of Nutrition*.*

Researchers at the National Cancer Institute evaluated data from 16,338 individuals who participated in the 2001-2004 National Health and Nutrition Examination Survey. With the exception of total grains, and meat and beans, the majority of the sample surveyed failed to consume the minimum recommendations for each food group. Almost all participants failed to consume enough dark green vegetables, orange vegetables, legumes and whole grains. Total vegetable and milk recommendations were unmet by most people in over half of the age and gender groups analyzed.

“This analysis indicates that nearly the entire US population consumes a diet with fewer vegetables and whole grains than recommended and that a large majority under-consume fruits, milk, and oils relative to recommendations,” the authors write.

Editor's note: A multinutrient supplement can help make up some of the insufficiencies incurred by an inadequate diet.

—D. Dye

* *J Nutr.* 2010 Aug 11.

Berries Protect the Brain in Several Ways

The 240th National Meeting of the American Chemical Society held recently in Boston was the site of a presentation by Shibu Poulouse, PhD, of the US Department of Agriculture about new findings for berries in protecting aging brains.*

Dr. Poulouse studied the brain's natural “house-cleaning” process, which involves autophagy by cells known as microglia. These cells remove and recycle toxic proteins that can interfere with brain function. “In aging, microglia fail to do their work, and debris builds up,” Dr. Poulouse explained.

In experiments with mouse cells, Dr. Poulouse found that blueberry and strawberry extracts inhibited a protein that interferes with autophagy. “The results strongly suggest that the benefits of both berries extend beyond the antioxidant and anti-inflammatory effects to cellular toxic clearance through induction of autophagy in brain,” concludes a written summary of the findings.

Editor's note: Blueberry and other berry extracts are currently available as nutritional supplements.

—D. Dye

* 240th National Meeting of the American Chemical Society.



Resveratrol Supplementation Reduces Weight Gain in Primate

In an article published online in the journal *BMC Physiology*, French researchers report that resveratrol reduces seasonal body-mass gain in a primate model of weight gain.*

Dr. Fabienne Aujard of the Centre National de la Recherche Scientifique and her associates tested the effect of four weeks of resveratrol supplementation in grey mouse lemurs. These animals gain a significant amount of weight during the winter months by entering a daily state of inactivity (torpor) accompanied by a reduction in body temperature in order to conserve energy.

Supplementation with resveratrol reduced the animals' seasonal weight gain by decreasing calorie intake by 13%, inhibiting the depth of daily torpor, and increasing resting metabolic rate by 29%.

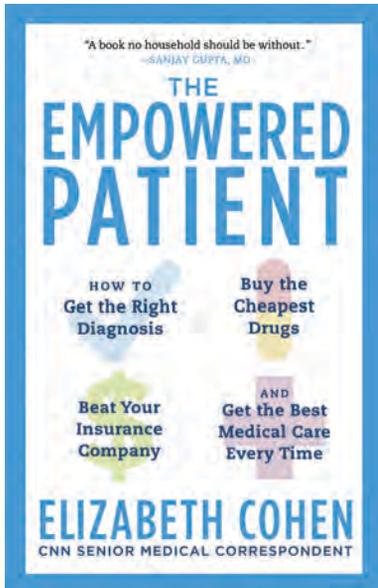
“The physiological benefits of resveratrol are currently under intensive investigation, with recent work suggesting that it could be a good candidate for the development of obesity therapies,” Dr. Aujard commented.

Editor's note: Resveratrol, which is found in red grapes and other plant foods, had been demonstrated to protect rodents from diabetes and obesity caused by a high-fat diet; however, the compound's effects on weight loss had not been studied in higher animals.

—D. Dye

* <http://www.biomedcentral.com/1472-6793/10/11/abstract>. Accessed July 22, 2010.

BOOK REVIEW



THE EMPOWERED PATIENT
By Elizabeth Cohen

Navigating the labyrinth of the medical establishment can be extraordinarily difficult, especially in the current climate of health care uncertainty. Fortunately, CNN Senior Correspondent Elizabeth Cohen has written *The Empowered Patient* (Ballantine Books, 2010), a book that is a virtual GPS to help guide you through the byzantine maze.

Her goal is simple: to help you get the best care humanly possible should you unfortunately fall ill. In order to jar you into taking action and, as the book's title says, become an Empowered Patient, she first lays out some startling facts.

Fact 1: Medical errors kill more people each year than AIDS, breast cancer, or car accidents

Fact 2: 99,000 Americans die each year from infections they acquire in the hospital

Fact 3: As many as 98,000 Americans die from medical mistakes in the hospital.

With chapter headers like "How to Be a "Bad Patient," "How to Avoid a Misdiagnosis," "Don't Fall for Medical Marketing," and "Don't Let a Hospital Kill You," Cohen stakes out her claim early on that from the moment you enter the medical world, your head needs to be on a swivel. The surest way to do that is to stay constantly informed about what is happening around you. Simply accepting what a doctor is telling you is unacceptable.

The beauty of Cohen's book is that she writes from experience in dealing with hospitals and from the perspective of being an expert. Yes, the facts, when you first hear them, are scary, but once you accept that these days, "medicine is more of an art than a science," you are able to sit back and think with a clear head. And thinking with a clear head is paramount to getting what you want.

"Despite what Michael Moore says, the United States has some of the best care in the world," Cohen writes in her introduction, "And my family and I have been grateful recipients of it on many occasions. But getting that excellent care takes know-how, and I want to share with you what I've learned through my reporting and my personal experiences with doctors."

One such doctor, Sanjay Gupta, who recently appeared on the cover of *Life Extension Magazine*®, says that *The Empowered Patient* is "a book no household should be without". And he's right. From the starting point of getting the right diagnosis for an ailment, to how to buy the cheapest drugs, to how to beat your insurance company, *Patient* is an invaluable resource.

To order a copy of *The Empowered Patient*
call 1-800-544-4440 or visit www.LifeExtension.com

Item #33825 • Retail price \$15 • Member price \$10.50

Natural Support for Cellular Energy Production

Optimized Carnitine with GlycoCarn®

Diminished cellular energy production is an inevitable consequence of aging. As adults mature, the cellular power plants known as the *mitochondria* become dysfunctional. The resulting slowdown in energy production manifests in numerous health problems.

Nutritional researchers have discovered that the amino acid **carnitine** promotes the burning of fat for fuel in the mitochondria, thus promoting youthful levels of cellular energy production.* Researchers have now identified several optimized, next-generation forms of **carnitine** that not only help boost cellular energy production, but also may confer targeted benefits for the brain, heart, muscles, and central nervous system.

Optimized Carnitine with GlycoCarn® combines these advanced forms of carnitine—*acetyl-L-carnitine*, *glycine propionyl-L-carnitine*, and *acetyl-L-carnitine arginate*—in a single formula that provides balanced, broad-spectrum support for cellular energy production throughout the body.

Acetyl-L-carnitine readily crosses the blood-brain barrier to combat oxidative stress and promote energy production in critical brain and central nervous system tissues.¹ Acetyl-L-carnitine also supports healthy brain function by stimulating the release of acetylcholine and dopamine, two neurotransmitters that play vital roles in brain health and communication.*

Acetyl-L-carnitine arginate has an added molecule of arginine that enables it to augment the effects of acetyl-L-carnitine, promoting the growth of neurites that facilitate communication among nerve cells in the brain.²

GlycoCarn® is a patented form of **glycine propionyl-L-carnitine** that quickly penetrates into heart, endothelial, and muscle cells, with effects that range from protecting heart muscle from lack of blood flow to combating muscle fatigue by increasing muscle energy stores of glycogen.³

Two capsules of **Optimized Carnitine with GlycoCarn®** provide:

Acetyl-L-Carnitine HCl	800 mg
ArginoCarn® Acetyl-L-Carnitine Arginate Di-HCl	300 mg
GlycoCarn® Glycine Propionyl-L-Carnitine HCl	300 mg

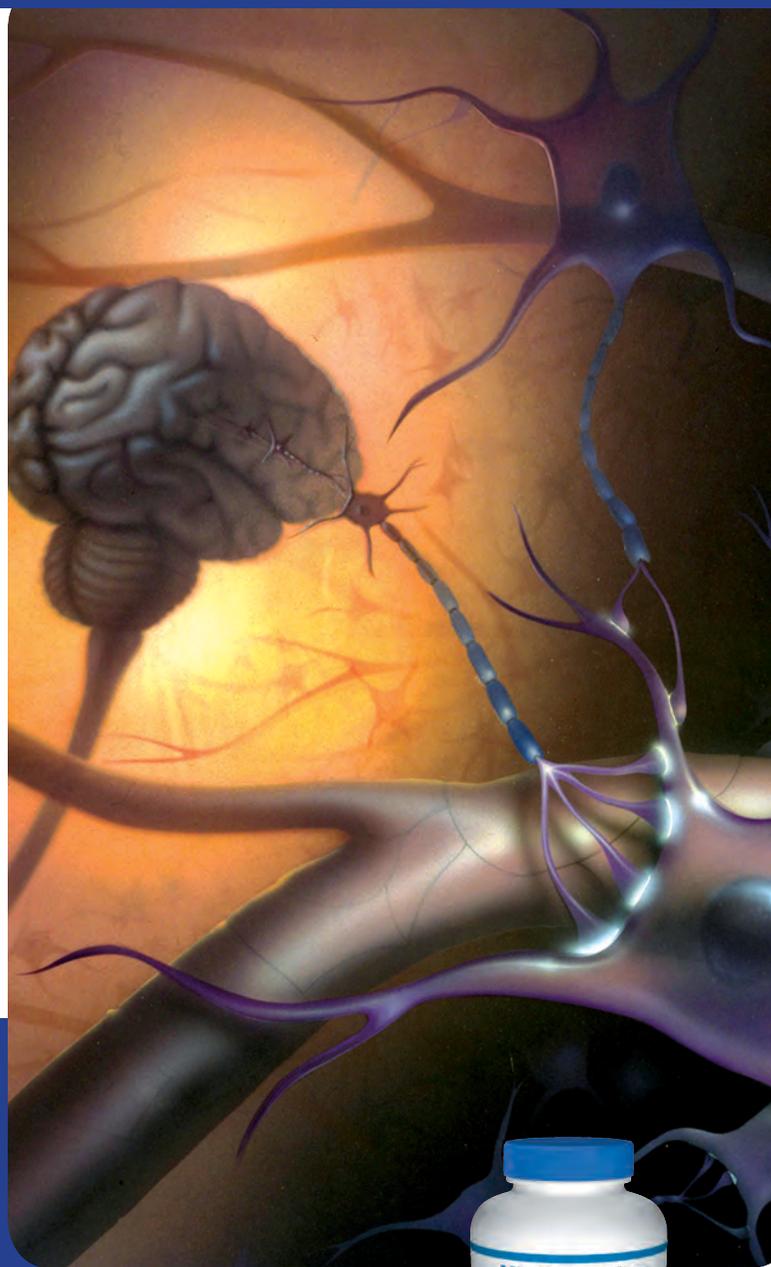
A bottle of 60 vegetarian capsules of **Optimized Carnitine with GlycoCarn®** retails for \$29. If a member buys four bottles, the price is reduced to only **\$19.58 per bottle**.

References

1. *Alzheimer Dis Assoc Disord.* 1995;9(3):128-31.
2. *Neurochem Res.* 1995 Jan;20(1):1-9.
3. *Mol Cell Biochem.* 2003 Dec;254(1-2):227-34.

GlycoCarn® and ArginoCarn® are registered trademarks of Sigma-tau HealthScience, Inc., and are protected by US patent Nos. 6,703,042 B1 and 6,245,378 B1.

*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.



Item #00916

To order **Optimized Carnitine with GlycoCarn®**,
call **1-800-544-4440** or visit
www.LifeExtension.com

SUPERCHARGED ASCORBIC ACID!

Vitamin C Tabs *with Dihydroquercetin*

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

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

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

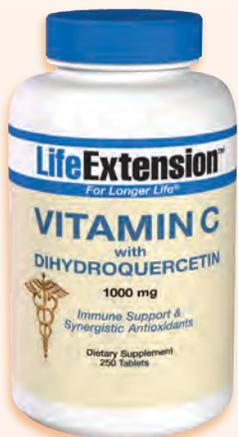
Vitamin C with Dihydroquercetin was formulated for those seeking to obtain optimal efficacy and antioxidant protection from their vitamin C supplement. The suggested daily dose of one tablet of this formula supplies **1,000 mg** of **vitamin C** (as ascorbic acid), along with **10 mg** of

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

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

References:

1. *PLoS Med.* 2005 Sep;2(9):e307; author reply e309.
2. *Am J Clin Nutr.* 1988 Sep;48(3):601-4.
3. *J Food Tech.* 1969;4:255-67.



ITEM #00927



**To order VITAMIN C with Dihydroquercetin,
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These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.

Next-Generation Formula

Enhanced Berry Complete with RZD™ Açai



Another Breakthrough in Antioxidant Defense!

In 2008, Life Extension® introduced **Berry Complete**, a unique, high-potency blend of extracts from Nature's most powerful free radical fighters.¹⁻⁵ The antioxidant strength of just one capsule equaled **more than 50%** of the recommended five daily servings of fruits and vegetables.

Today, we introduce an *even more* powerful antioxidant formula. A single capsule of the new **Enhanced Berry Complete with RZD™ Açai** delivers an antioxidant value equivalent to **more than 100%** of the recommended daily fruit and vegetable intake.

It is also the first antioxidant formula to use a cutting-edge extraction technology called **Radiant Zone Drying™**. This patented process delivers the most *complete* nutritional profile of the açai berry—for a breakthrough in antioxidant defense.

ORAC: A Measure of Antioxidant Power

To measure the antioxidant strength of various foods, scientists use what is known as the ORAC index. While berries score higher than most fruits and vegetables, açai boasts one of the *highest* ORAC values known to modern science.

Unfortunately, most commercial products containing açai do not reflect the full nutritional content of the fruit. Only a *fraction* of its phenolic content survives industrial processing, handling, and storage.

RZD™ extraction technology allows for optimal delivery of açai polyphenols, including highly beneficial **anthocyanins, proanthocyanidins, and flavonoids**, along with **essential fatty acids** and other vital compounds.

Why should this matter to you? It's more than a matter of antioxidant potency. In 2010, a team of researchers reported for the first time that açai, blueberry, and

strawberry polyphenols may provide targeted support for cellular metabolic processes that promote neural and cognitive health in the aging brain.⁶ But you need the *complete* polyphenolic profile to get the benefit.

Each vegetarian capsule of Enhanced Berry Complete with RZD™ Açai also contains standardized extracts of high-ORAC value foods including:

Blackcurrant	Grape
Blackberry	Cranberry
Elderberry	Prune
Wild blueberry	Strawberry
Wild bilberry	Pomegranate
Sweet cherry	Black soybean hull
Tart cherry	Blue corn
Raspberry	

Enhanced Berry Complete with RZD™ Açai gives you a convenient way to obtain a broad spectrum of seasonal, hard-to-find, highly perishable foods, for optimal antioxidant value.

A bottle containing 60 vegetarian capsules of **Enhanced Berry Complete with RZD™ Açai** retails for \$29. If a member buys four bottles, the cost is just **\$19.50** per bottle.

Contains soybeans. Contains corn.

References

1. *J Agric Food Chem.* 2008;56:7796-802.
2. *J Agric Food Chem.* 2008 Feb 13;56(3):630-5.
3. *Mol Nutr Food Res.* 2007 Jun;51(6):652-64.
4. *J Agric Food Chem.* 2006 Dec 13;54(25):9329-39.
5. *Br J Nutr.* 2009 Nov 24;114:1-4.
6. American Chemical Society. Aug 23, 2010.

RZD™ and Radiant Zone Drying™ are trademarks of Columbia Phytotechnology, LLC.



To order **Enhanced Berry Complete with RZD™ Açai**, call **1-800-544-4440** or visit **www.LifeExtension.com**

**FOR HEALTHY
FEMALE HORMONE SUPPORT**

NATURAL ESTROGEN

WITH POMEGRANATE EXTRACT



As women age, their natural production of **youth hormones** declines, which can give rise to unpleasant problems and accelerate various aging processes.

Estrogen confers a wide range of health benefits, such as helping to maintain firm skin and muscle tone, supporting healthy sexual function, producing greater feelings of well-being, and supporting cardio-vascular and bone health.*

Concerned about the life-threatening side effects of estrogen drugs, many women deprive themselves of the benefits of natural hormone solutions.

Natural Estrogen with Pomegranate Extract contains standardized plant extracts that may help produce hormone-like modulating effects that are beneficial for most women over 40. This newly improved formula contains health-promoting phytoestrogens and polyphenols that confer

powerful hormone-modulating and DNA-protecting effects.

Natural Estrogen also provides the following complementary plant extracts:

- Black cohosh to mimic the safe estrogen “estriol”
- Licorice to facilitate natural estrogen synthesis
- HMRlignan™ extract to protect against some of estrogen’s unwanted effects
- Broccoli extract to help modulate estrogens and maintain healthy cell division
- Dong quai to balance estrogens and induce progesterone synthesis
- Vitex agnus-castus to establish hormone balance and suppress excess prolactin.

A bottle of 60 caplets of **Natural Estrogen with Pomegranate Extract** (a one-month supply) retails for \$38. If a Life Extension member orders four bottles, the price is reduced to only **\$24.75** per bottle.

Contains soybeans. Contains corn.



The recommended daily dose of two caplets provides:

SoySelect® soybean (<i>Glycine max</i>) 70:1 Extract [standardized to 13% isoflavones (52 mg), 18% Group-B Saponins (72 mg)]	400 mg
Broccoli (<i>Brassica oleracea L.</i>) Super Concentrate Extract (plant) [standardized to 4% glucosinolates (12 mg)]	300 mg
POMELLA® Pomegranate (<i>Punica granatum</i>) Extract (fruit) [standardized to 30% Punicalagins (60 mg)]	200 mg
Black cohosh extract (<i>Cimicifuga racemosa</i>) (root and stem) [standardized to 2.5% triterpene glycosides (1 mg)]	40 mg
HMRlignan™ Norway spruce (<i>Picea abies</i>) lignan extract (knot wood) [standardized to 90% Hydroxymatairesinol potassium acetate complex (27 mg)]	30 mg
Dong quai extract (<i>Angelica sinensis</i>) (root) [standardized to 1% ligustilide (.25 mg)]	25 mg
Licorice extract (<i>Glycyrrhiza glabra</i>) (root)	25 mg
Vitex extract (<i>Vitex agnus-castus</i>) (fruit) [standardized. to 5% flavonoids (1 mg)]	20 mg

Caution: Those with an estrogen-dependent cancer should consult with their physician before using any type of estrogen supplement. SoySelect® is a registered trademark of Indena SpA. HMRlignan™ is a trademark used under sublicense from Linnea SA. POMELLA® Extract is covered under U.S. Patent 7,638,640 and POMELLA® is a registered trademark of Verdure Sciences, Inc.

**To order Natural Estrogen caplets, call 1-800-544-4440
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*These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.

HALT Age-Related Muscle Loss



Novel Plant Protein Blend Helps Maintain Functional Strength

BY ROBERT HAAS, MS

Without **protein supplementation**, more than half of all adults could eventually face the progressive, age-related loss of vital muscle tissue known as **sarcopenia**.

Vegetarians and those following a cholesterol-restricted diet may be at a higher risk of protein deficiency that could lead to this degenerative condition that results in a **5-10%** loss of muscle mass **per decade** after age **40**. **Sarcopenia** increases the risk of falls, injuries, and loss of functional capacity.¹

At the beginning of the 21st century, **sarcopenia** was responsible for **1.5%** of total health care expenditures in the United States, with an annual cost of **\$18.5 billion**.² Mainstream doctors rarely discuss this health threat with their patients because most lack the training to successfully prevent or treat the condition.

In this article you will learn about a plant-based protein supplement enriched with **branched-chain amino acids** and **glutamine** that can help avert age-related muscle loss and promote recovery from exercise. This supplement contains a proprietary blend of pea, rice, and artichoke proteins and mixes with water to make an instant low-fat, cholesterol-free drink with a biological value and digestibility score **equal to whey and egg protein**.

Unlike most protein drink mixes on the market, this cutting-edge formula contains no common allergens like **dairy** or **egg**, and provides cholesterol-lowering **beta-glucan fiber** and the prebiotics **agave inulin** and **FOS** to support digestive health and immune function. >>



Why Aging Individuals Need More Protein

Research has firmly established the anabolic (tissue-building) effect of protein supplementation on muscle mass in aging humans, with and without exercise.³⁻⁵ Contrary to popular belief, clinical studies reveal that older adults can benefit from *higher amounts* of high-quality protein each day even more than active younger people.⁶⁻⁹

Although protein synthesis and skeletal muscle mass are regulated by a host of factors, the fundamental prerequisite for muscle protein synthesis is **dietary-derived amino acids**. Surprisingly, the recommended daily intake (RDI) for protein established by the Institutes of Medicine is the same for all adults—**0.8 grams** per kilogram of body weight. This translates into **58 grams** for an aging adult weighing **160 pounds**.

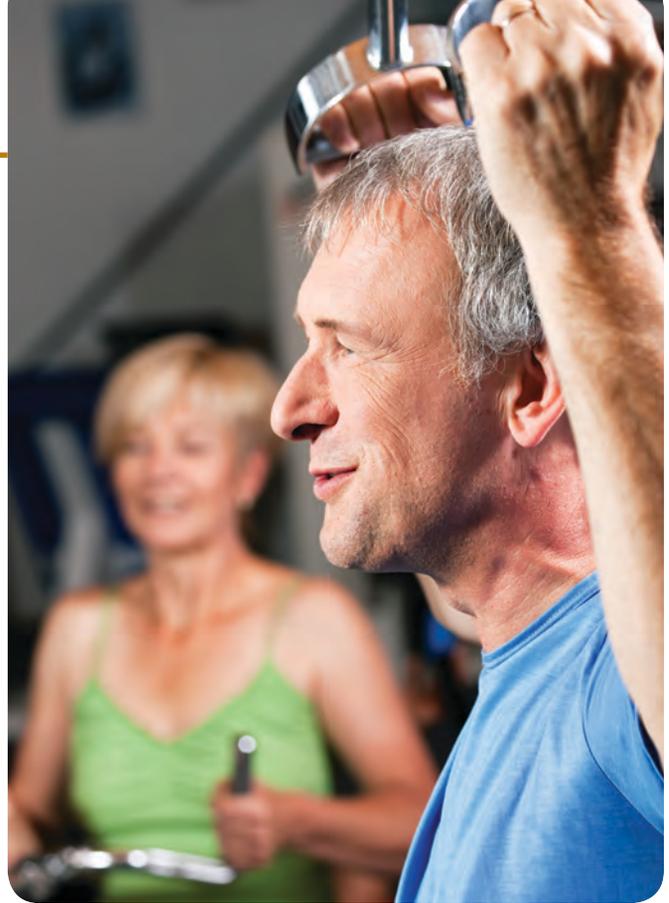
Yet considerable evidence reveals that the protein requirement for healthy older adults is **1.0-1.3 g/kg** body weight,¹⁰⁻¹² which translates into **73-94 grams** for an aging adult weighing 160 pounds. This contradiction indicates the federal government's protein intake recommendation is up to **38% less** than what published scientific studies indicate is needed.

Clinical research suggests that eating a diet rich in cholesterol-free, high-quality vegetable protein can lead to favorable changes in cardiovascular risk profiles in adults of all ages. For example, a recent study found that overweight, hyperlipidemic men and women (ages **21-70**) who were fed a reduced-calorie diet abundant in high-quality vegetable protein achieved similar **weight loss** but *superior reductions in blood pressure and LDL-cholesterol* compared to a matched group of adults fed a high-carbohydrate, lacto-ovo vegetarian diet (containing low-fat dairy and eggs).¹³

A new proprietary plant protein product enriched with branched-chain amino acids and glutamine has a perfect PDCAAS (protein digestibility corrected amino acid score) of **1.0** (100%), which is equal to the PDCAAS of whey and egg.¹⁴ The PDCAAS has been adopted by Food and Agriculture Association (FAO) and World Health Organization (WHO) as the preferred standard for measurement of protein value in human nutrition.¹⁵

Converting Ingested Proteins into Body Proteins

When proteins are ingested, they are transformed in your cells through a process known as "protein synthesis" into vital structures that make up a



considerable amount of your anatomy. Aging results in a reduction in cellular protein synthesis within our body.

Fortunately, just a modest bout of physical activity in older individuals may be able to restore the ability of insulin to stimulate muscle protein synthesis.¹⁶

A more recent study found that amino acid supplementation with **15 grams/day** of essential amino acids for three months increased muscle synthesis and lean body mass in older women.¹⁷ Study investigators concluded, "*The acute anabolic response to essential amino acids supplementation is maintained over time and can improve lean body mass, possibly offsetting the debilitating effects of sarcopenia.*"

Shore Up Aging Muscles with Branched-Chain Amino Acids

The branched-chain amino acids (BCAAs)—leucine, isoleucine, and valine—are essential amino acids that play important metabolic roles, particularly during exercise and in the maintenance and growth of skeletal muscle. BCAAs account for 35% of the essential amino acids in muscle proteins and can serve as an energy source for muscle tissue during exercise.

Leucine, the most metabolically active branched-chain amino acid (BCAA) promotes muscle tissue synthesis.¹⁸⁻²⁰ Notably, leucine is a potent activator of a signaling pathway in human skeletal muscle that favorably modulates insulin sensitivity and the body's anabolic drive.^{21,22}

While it is widely acknowledged that aging muscle becomes progressively resistant to the stimulatory effects of normal postprandial concentrations of leucine,²³ several animal studies show that this deficit can be overcome by feeding supplemental leucine with typical mixed nutrient meals.²⁴⁻²⁶ These findings emphasize the tremendous potential of taking supplemental leucine with meals in order to maximally stimulate muscle protein synthesis.²⁷

Glutamine: An Essential Energizer

Glutamine is the most abundant free amino acid in the body and accounts for more than **60%** of all free amino acids in plasma and muscle tissue.²⁸ L-glutamine easily crosses the blood-brain barrier. Once in the brain, glutamine is converted into L-glutamic acid, which the brain can use for fuel should glucose, the brain's preferred energy substrate, be in short supply.²⁹

Glutamine is intimately involved in a number of key metabolic functions, including as an energy source for endothelial, intestinal, and lymphocytic cells,^{30,31} a regulator of nitric oxide synthesis by endothelial cells,³² and a transport molecule to carry toxic ammonia from peripheral tissues to the liver for conversion to urea.³⁰

In catabolic states of injury and illness, glutamine becomes conditionally essential (requiring intake from food or supplements).^{30,33} Extensive study has shown that glutamine is useful in treatment of serious illnesses,³⁴⁻³⁶ injury,³⁷ infection,^{38,39} and mitigating treatment-related side effects of cancer,^{40,41} as well as promoting wound healing in postoperative patients.^{30,42}

Legumes for Vegetarian-Based Protein

Research has shown that consumption of high-quality vegetable protein exerts numerous beneficial effects in aging humans. A recent study found that compared to consuming **15 grams** whey or milk protein (casein), ingesting **15 grams pea protein** provided **greater postprandial** (after-meal) **satiety**.⁴³ This is important for those seeking to reduce their calorie intake of fats and carbohydrates.

Another study using an *in vitro* gastrointestinal digestion model suggested that pea protein has potential to **reduce elevated blood pressure**.⁴⁴

Protein for Muscle

- After age 40, adult protein requirements increase while daily caloric requirements tend to decrease.
- Protein supplementation can mitigate age-related muscle loss, a leading cause of injury and long-term disability among older adults, and can promote the growth of muscle tissue and recovery from exercise.
- Vegetarians and aging adults could benefit from consuming a new proprietary protein supplement enriched with pea and other plant proteins, BCAAs, glutamine, agave inulin and FOS, oat beta-glucans, and digestive enzymes.
- This innovative functional protein mix contains components that work in concert to aid digestion, reduce inflammation, control insulin and blood sugar levels, and promote digestive function and health.
- Low-carb dieters, and those following cholesterol-restricted diets as well as those who wish to avoid dairy, egg, or soy protein can safely use this cholesterol-free, plant-based protein supplement.
- Pea protein and other plant-based proteins have been shown to exert a positive impact on blood pressure and blood lipid levels.



Pea protein contains more glutamine than whey or egg protein, with comparable BCAA values to whey, egg, and casein. It also contains more arginine than these 'gold standard' animal proteins. Arginine is essential for **nitric oxide synthesis**, which promotes healthy **endothelial function** and blood vessel dilation and relaxation.⁴⁵

Although numerous studies have established the value of consuming whey protein to boost tissue levels of the antioxidant **glutathione**, research scientists very recently discovered that compared to glutathione, pea protein hydrolysate exhibited a significantly higher ability to inhibit fatty acid oxidation and to chelate free radical-causing metals.⁴⁶

Agave Inulin and FOS: A Powerful Prebiotic Blend

Prebiotics feed beneficial intestinal bacterial flora. The natural prebiotics **inulin** and **fructooligosaccharides** (FOS) occur in more than 36,000 species of the world's flora.⁴⁷ Thus, it is almost certain that the diets of our prehistoric forebears consisted of foods rich in prebiotics.⁴⁸ Presumably, the human digestive tract evolved to depend on the health-supporting properties of prebiotics.

Current studies reveal that long-chain prebiotics like inulin extracted from the fiber of the **agave plant**,



unlike many other short-chain prebiotics, arrive at the colon intact and remain longer, allowing them to effectively support the growth of the beneficial digestive tract bacteria, *Lactobacilli* and *Bifidobacteria*.⁴⁹

Food scientists have devised a strategy of using agave-derived inulin and FOS in protein supplements and functional foods to promote the growth of indigenous *Bifidobacteria* in the gut.⁵⁰ These prebiotics interact in a selective way with our intestinal ecosystem and can favorably transform its composition, providing tremendous potential for gut health, chemoprevention, and immunity.^{51,52}

An emerging body of research suggests that consuming inulin-based prebiotics directly diminishes the risk of chronic diseases by:

- Reducing the symptoms and inflammation in ulcerative colitis⁵³⁻⁵⁵
- Protecting against colon cancer in animal and human models⁵⁶⁻⁶⁰
- Lowering triglycerides and cholesterol in the blood to protect against coronary heart disease⁶¹⁻⁶⁴
- Favorably modulating insulin levels in the blood⁶⁵
- Supporting bone health through increased calcium and magnesium absorption in animal and human model studies⁶⁶⁻⁶⁹

Data from human studies suggests that fermentation of prebiotic carbohydrates stimulates colonic motility and promotes proliferation of *Bifidobacteria*, both of which have been shown to relieve constipation.^{70,71} In one study, fecal weight increased in response to supplementation with either FOS or inulin.⁷²

Oat Beta-glucans For Glycemic and Cholesterol Control

Numerous animal and human studies have established oat beta-glucans as an important dietary aid in the treatment of diabetes and cardiovascular disorders. Oat bran in particular is good source of the heart-healthy soluble fiber **beta-glucan**.⁷³

Oat beta-glucans have been shown to promote a healthy postprandial glycemic response.⁷⁴⁻⁷⁸ In addition, oat beta-glucans can lower cholesterol levels in adults with elevated lipid levels. One clinical study examined the effects of feeding oat bran beta-glucans to men and women with high cholesterol. Participants were able to achieve significant reductions in plasma cholesterol levels by the study's end.⁷⁹

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Summary

Aging adults often require more **protein** than younger adults—a fact established by clinical studies, yet ignored by our leading health organizations.

Nearly **50%** of all adults run the risk of developing sarcopenia, a serious age-related loss of muscle mass. Age-related muscle loss is a leading cause of preventable disability and loss of functional capacity in older adults.

Adults, vegetarians, and all active people can benefit from a new proprietary protein supplement product enriched with pea and other plant proteins, branch chained amino acids, prebiotics, and cholesterol-lowering oat beta-glucans. These components work in concert to maximize protein utilization, while controlling the postprandial glycemic response that inflicts so much damage to cells after every high-calorie meal we eat. ●

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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In **2003**, the **Life Extension Foundation**[®] introduced standardized extract of **resveratrol**, a natural compound shown to favorably alter genes implicated in the aging process—many of the same genes that respond to **calorie restriction** or **CR**.

In **2009**, we introduced the “other” resveratrol, **pterostilbene**, a compound whose effects were found to work in *synergy* with resveratrol to activate your “longevity genes.”

This year, we advanced the field even further, bringing together the **5** known **calorie restriction mimetics** in a single, high-potency formula: **resveratrol**, **pterostilbene**, **quercetin**, **grape seed polyphenols**, and **black tea extract**.¹⁻⁸

Today we announce the latest innovation in the science of longevity with new **CR Mimetic Longevity Formula** and **Optimized Resveratrol**, both featuring **fisetin**. This little-known flavonoid is the **sixth** compound shown to simulate a similar youthful gene expression pattern as calorie restriction⁹—without significant dietary modification.

In the most exciting development to date, this novel compound (fisetin) may also enhance the effects of resveratrol!¹⁰

Unleashing the Synergistic Power of Berry Actives

Life Extension[®] has gone to extraordinary lengths to identify compounds that simulate calorie restriction’s ability to trigger youthful *gene expression*—the process by which genes transmit signals that slow certain aspects of aging.

For example, previous research funded by Life Extension showed that a combination of low-dose (**20 mg**) resveratrol plus **grape seed extract** induced many of the favorable gene expression changes observed in **calorie-restricted** animals.

Our comprehensive review of the scientific literature further revealed that certain compounds found in **berries**, such as pterostilbene, *also* possess potent “longevity gene” activators that work in synergy with resveratrol.

Most abundant in strawberries, **fisetin** has the power to “switch on” powerful cell signaling molecules that support youthful gene expression, DNA protection, and healthy cellular function.⁹ It also supports aging neurons in the presence of oxidative stress.¹¹⁻¹³

Each serving of the new **CR Mimetic Longevity Formula** contains fisetin in an amount equivalent to 2 cups of strawberries, helping to further emulate calorie restriction’s favorable influence on your longevity genes.

Most importantly, fisetin works in *synergy* with resveratrol. Researchers have uncovered compelling evidence of fisetin’s ability to **stabilize** resveratrol by shielding it from metabolic breakdown¹⁰ and extending its effects.

To take advantage of this extraordinary property, the new **Optimized Resveratrol with Synergistic Grape-Berry Actives** also includes fisetin, to enhance resveratrol’s beneficial action.

Either one of these new formulas provide cutting-edge broad-spectrum support for youthful gene expression from the most scientifically validated, natural sources.

CR Mimetic Longevity Formula

A bottle containing 60 vegetarian capsules of **CR Mimetic Longevity Formula** retails for \$39. If a member buys four bottles, the price is reduced to just **\$27** per bottle. The suggested daily dose of two capsules a day provides:

<i>Trans</i> -Resveratrol	250 mg
<i>Trans</i> -Pterostilbene	3 mg
Quercetin	150 mg
Grape seed extract	50 mg
Black tea extract	300 mg
Fisetin	48 mg



Item #01429

Optimized Resveratrol with Synergistic Grape-Berry Actives

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<i>Trans</i> -Resveratrol	250 mg
Grape-Berry Actives	85 mg
Quercetin	60 mg
<i>Trans</i> -Pterostilbene	0.5 mg
Fisetin	10 mg



Item #01430

Contains yeast.

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To order the new
CR Mimetic Longevity Formula or
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V-1

Largest Selection of VITAMIN D SUPPLEMENTS

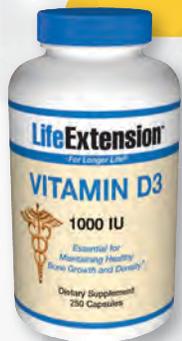
More studies have been published over the past four years supporting the health benefits of **vitamin D** than possibly any other compound.

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

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

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

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



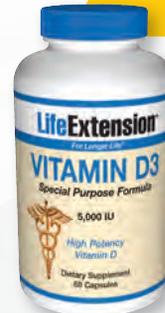
Vitamin D3 1,000 IU • 250 capsules

Retail: **\$12.50**

Four bottle Member Price: **\$8.44**

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

Please refer to website for allergen information.



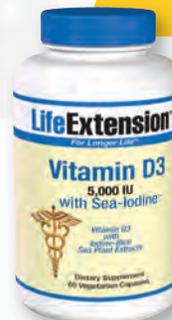
Vitamin D3 5,000 IU • 60 capsules

Retail: **\$11**

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

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Vitamin D3 5,000 IU with Sea-Iodine*

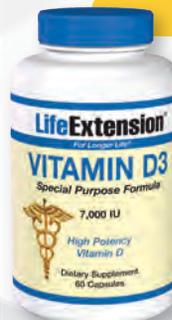
60 vegetarian capsules

Retail: **\$14**

Four bottle Member Price: **\$9.38**

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

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Vitamin D3 7,000 IU • 60 capsules

Retail: **\$14**

Four bottle Member Price: **\$9.45**

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

Please refer to website for allergen information.



Vitamin D3 Liquid Emulsion 2,000 IU • 1 ounce

Retail: **\$28**

Four bottle Member Price: **\$18.75**

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

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

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

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

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

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.

Keep the Muscle You Need for Everyday Strength

With New Pure Plant Protein

*Hunched over. Listless.
Weak and exhausted.*

You see it every day in older people, robbed of the strength they need to perform even the simplest tasks.

Up until now the loss of muscle strength has been an unavoidable fact of normal aging. Research shows that humans undergo a **5-10%** loss of total muscle mass **each decade** after age 40.¹

Less well known are the life-threatening consequences. According to the *American Academy of Family Physicians*, injuries sustained during falls as a result of lost functional strength are the **number one cause of accidental death** in people over 65.²

But there's something you can do about it . . .

Are You Getting Enough Healthy Protein?

Published studies have firmly established that aging individuals need more dietary protein than younger people to promote healthy muscle mass as they age.³⁻⁵

The problem is that many older people are rightly told to limit *animal* protein intake, which carries the risk of toxins, saturated fats, elevated cholesterol, and other health threats.

Now you can obtain the protein you need in a highly digestible, vegetarian form with a new **Pure Plant Protein** vegetarian formula.

An Ultra-Digestible, Low-Glycemic Blend Free of Gluten, Soy, Wheat, and Dairy

No dietary protein mix on the market today can rival the benefits obtained with the new **Pure Plant Protein** vegetarian formula.

First, we brought together a unique combination of high-quality pea, rice, and artichoke proteins. We added metabolically active **branched-chain amino acids** (*valine, leucine, isoleucine*) **glycine** and **glutamine** to form a complete protein *without* animal products or common allergens. Then we included an array of prebiotic compounds to maintain healthy intestinal flora.

The result? An unparalleled array of health-promoting benefits, including:

- **A perfect Protein Digestibility Corrected Amino Acid Score—the international ranking for protein digestibility.**
- **Support for recovery after workouts.**
- **Free of dairy, soy, wheat, and gluten for individuals who do not tolerate these dietary components well.**
- **Low fat, no cholesterol.**
- **No artificial sweeteners and no xylitol, maltitol, or sorbitol (sugar alcohols).**
- **Mixes with cold water into a full-bodied drink, not thin and unsatisfying.**
- **Oat beta-glucans help reduce after-meal blood glucose surges.**
- **Prebiotic inulins, the nutrients beneficial bacteria thrive on. These inulins are complex, lasting longer in the digestive tract and enabling beneficial bacteria to distribute further into the colon.**

Just one **30 gram** scoop of **Pure Plant Protein** vegetarian formula supplies the complete range of protein and nutrients your body needs to support healthy muscle as you age. Taking this powdered drink mix with meals can enable you to reduce the intake of fat and carbohydrate calories that contribute to unwanted weight gain.

One jar of the new **Pure Plant Protein** vegetarian formula retails for \$36. If a member buys four jars, the price is just **\$24.75**.

Contains corn and rice.

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**Ask Me
About
METFORMIN**

The Drug Virtually Everyone Should Ask their Doctor About

BY JULIUS GOEPP, MD

With each passing year, fresh scientific evidence emerges to vindicate **Life Extension®**'s contention that aging humans can derive enormous benefit from an anti-diabetic drug called **metformin**.

In 2010 alone, scientists at top-ranked institutions made landmark discoveries that *broaden* its use to combat degenerative disease.

The ability of metformin to help facilitate **weight loss** has long been known. What few doctors understand are the unique mechanisms by which metformin can prevent and even help treat certain **cancers**.

In a remarkable finding, a team of Swiss researchers found that diabetic women on a long-term metformin regimen (5 years or more) experienced a **56%** reduction in **breast cancer** risk!¹ It also slashed **pancreatic cancer** rates by **62%** in diabetics and may cut lung cancer rates in smokers.^{2,3}

In this article, a novel link between **impaired glucose control** and **cancer** is detailed. You will discover the growing list of cancers metformin may effectively combat, including those of the **colon**, **uterus**, and **prostate**. You will also learn of a striking connection between the anti-cancer mechanisms of **metformin** and **calorie restriction!** > >



Why Metformin Should Be Viewed Differently than Other Drugs

Many Life Extension members like to brag that they do not need to take any prescription drugs. Given the lethal side effects posed by so many FDA-approved medications, avoiding them whenever possible makes sense.

Metformin is an exception! Its broad-spectrum anti-aging properties make it a drug that most longevity enthusiasts should seriously consider asking their doctors about.

Since it long ago came off patent, metformin is a super-low cost generic that everyone can afford.

Metformin Was Originally a Botanical Compound

Although it is sold as a prescription drug today, metformin has a long history as a botanical compound. It was originally derived from the French lilac (*Gallega officianalis*), which has had a place in folk medicine for hundreds of years.^{4,5}

After decades of neglect in the 20th century, metformin was rediscovered during the acceleration of the global epidemics of obesity and type 2 diabetes. Metformin was approved by the FDA as a treatment for type 2 diabetes in 1994, and it became the most widely prescribed drug for this disease.⁶

Beginning around 2002, a series of epidemiological studies revealed a remarkable trend: diabetic patients taking metformin were less likely to die compared

to diabetics using other forms of therapy, including other oral glucose-lowering drugs or insulin.^{7,8} The earlier studies also demonstrated specific benefits in protecting against cardiovascular diseases.^{9,10} By 2005, evidence from large, population-based studies was becoming clear: people taking metformin for diabetes were significantly and reliably protected against the increased cancer risk posed by the diabetes itself.^{2,11-15} Why should this be? The answer lies in a hidden relationship between elevated blood glucose and cancer development.

Diabetics are predisposed to a terrifyingly broad range of cancers of the liver, pancreas, colon, breast, endometrium (uterine lining), kidney, and possibly other tissues.¹⁶⁻¹⁸ Scientists theorized that if ways to *reduce* chronic blood sugar elevations and other molecular consequences associated with weight gain were discovered, this would have a powerful impact in interrupting some of the pathways that lead to cancer. Metformin, it turns out, acts in a multitargeted fashion to accomplish precisely those effects.^{18,19}

The simplest way to understand metformin's role in cancer prevention is to recognize that it is a powerful calorie restriction-mimicking drug.²⁰ It acts to essentially "fool" the body into "believing" that it is in a calorie-restricted state, thereby switching on the same protective mechanisms that arise from calorie restriction itself.

Let's now see how all this biochemistry translates to genuine anti-cancer action.

Breast Cancer

Some of metformin's most compelling effects are in cancers of the reproductive system because it blocks the enzyme called aromatase, which can stimulate estrogen-dependent cancer growth.²¹

Breast cancer is the most common malignancy diagnosed in women.²² Fortunately, most varieties of breast cancer are proving to be especially susceptible to metformin prevention in the laboratory, and to metformin treatment in human patients, as shown by studies that have emerged over just the past two years.²³

Metformin suppresses a specific cancer-inducing protein (human epidermal growth factor receptor 2, or HER2)²⁴ that dramatically increases the risk of breast cancer.²⁵ By suppressing HER2, which can stop cancers from developing in the first place, metformin halts cancer cells' reproductive cycle, preventing them from growing once they have developed.²⁶

Via a different set of mechanisms, metformin selectively targets cancer stem cells, cells that resist chemotherapy drugs and can regenerate and cause relapse of the disease.²⁷ In live animal studies, metformin suppressed breast cancers, especially in animals on a high-calorie diet.²⁰ In a dramatic 2010 study, metformin extended the life span of mice with HER2-positive breast cancers, delayed the onset of tumor development, and inhibited the growth of implanted tumors.¹⁹

The combination of all these effects means that metformin is effective against many different types of breast cancers, including those that are estrogen receptor positive and negative, and those that express both normal and excessive amounts of HER2.²⁸ Indeed, data appeared in 2010 that long-term (greater than 5-year) *metformin use by humans is associated with a substantial (56%) reduction in risk for developing breast cancer* as compared with no use of metformin.¹

Human trials have already demonstrated that diabetic patients with breast cancer who receive metformin plus chemotherapy have a higher rate of complete remission than do those not taking metformin. Complete remission occurred in 24% of diabetic patients taking metformin, 8% of diabetic patients not taking metformin, and 16% of non-diabetic patients not taking metformin.²⁹ And a 2009 study showed that metformin induced unique, multitargeted responses in so-called "triple-negative" breast cancer cells, which represent some of the most difficult-to-treat forms of the malignancy.³⁰

All of these findings speak to metformin's tremendous potential as a true breast cancer chemopreventive agent—one that can and should be used long



Metformin

- Close links between diabetes and cancer have been recognized for more than a century, but the causative mechanisms have only recently been clarified.
- Diabetes and even undetected chronic elevations in blood sugar (insulin resistance) lead to tissue damage and increased insulin levels which can initiate and promote cancer in many tissues.
- Metformin is a safe and widely-prescribed drug approved for use in type 2 diabetes; it is also a powerful calorie restriction-mimicking drug.
- Metformin's calorie restriction-like actions include activation of a powerful and ubiquitous metabolic sensor called AMPK.
- Activation of AMPK and its consequences subject cancer cells to unique metabolic stresses not experienced by healthy tissues, promoting death (and even preventing development) of cancer cells early in the cancer development process.
- Metformin also independently inhibits an age-accelerating complex called mTOR that is implicated in cancer development.
- While existing mTOR-inhibiting drugs are highly toxic, metformin inhibits mTOR without discernible side effects.
- Metformin's other multitargeted anticancer effects combine with AMPK activation to suppress cancer throughout the body.
- Metformin-induced protection has been demonstrated in cancers of the breast, endometrium, prostate, pancreas and colon, and will likely prove effective in virtually all cancers.
- A serious calorie restriction-mimetic regimen should include metformin along with other proven nutraceuticals to optimize protection against cancers throughout the body.

before any sign of cancer has appeared. Scientists from around the world believe that the time has come to leverage these effects in breast cancer chemoprevention and treatment.^{22,23,31,32}

Endometrial Cancer

Cancer of the endometrium, or lining of the uterus, is the most common genital malignancy. It has multiple risk factors, among them obesity, insulin resistance, and diabetes.³³ An early sign of cancerous change is endometrial hyperplasia. Standard therapy for endometrial hyperplasia is treatment with progestogens (progesterone-like hormones), which can restore the endometrium to its normal state. In 2003, researchers at the Mayo Clinic reported a single case study of a woman whose endometrial hyperplasia had failed to respond to progestogen treatment, and who was then given metformin (she was not diabetic).³⁴ One month after initiation of treatment, the patient's endometrium had returned to its normal state.



In 2010 scientists learned that metformin is a potent inhibitor of endometrial cancer cell proliferation, acting to arrest the cancer cells' reproductive cycle, inducing cell death through apoptosis, and decreasing gene expression of an enzyme complex called human telomerase reverse transcriptase (hTERT) that contributes to unregulated cell replication.³⁵ Many of these effects were triggered by metformin's activation of the AMP-protein kinase (AMPK) complex, and are identical to those induced by calorie restriction.³⁵

Based on these observations, other gynecological

Metformin mimics the benefits of a hormone called adiponectin in activating AMPK-dependent growth inhibition in prostate and colon cancer cells.

researchers have begun to use metformin as part of a "conservative" approach (using fewer, less-invasive procedures) to their management of endometrial hyperplasia and endometrial cancer.³⁶

Prostate Cancer

Prostate cancer is the most-commonly diagnosed cancer in men. Insulin resistance, which triggers rising levels of insulin and insulin-like growth factors (IGFs) substantially increases disease risk.^{37,38} For that reason, reducing plasma insulin and IGF levels are significant goals in prostate cancer prevention and treatment, and metformin is increasingly being recommended in those roles.³⁷

Metformin mimics the benefits of a hormone called *adiponectin* in activating AMPK-dependent growth inhibition in prostate and colon cancer cells.³⁸ This helps solidify our understanding of the relationship between obesity, in which adiponectin levels are low, and cancer development.

Metformin also acts by blocking the prostate cancer cells' reproductive cycle by decreasing levels of a cancer growth-promoting protein (cyclin D1), and at the same time increasing production of a protein (p27) that inhibits the cell division cycle.³⁹ As an aside, it is p27 that is also enhanced (upregulated) by healthy levels of vitamin D, the omega-3 fatty acid DHA, and silibinin—one of the active agents in milk thistle.⁴⁰⁻⁴² These results testify to metformin's ability to attack cancers from multiple directions at once.

Still another angle from which metformin suppresses prostate cancer is to literally starve the malignant cells of energy, capitalizing on metabolic



vulnerabilities unique to cancer cells and absent in healthy cells. Stunning results appeared in early 2010 showing that metformin, in combination with the metabolic agent 2-deoxyglucose, dramatically depletes prostate cancer cells' stores of energy-rich ATP molecules.⁴³ In fact, the treatment led to a 96% reduction in malignant cells' viability, with only moderate effects on healthy prostate cells. The treatment also triggered a switch from survival processes to cell death in the malignant cells.

These laboratory findings took on profound meaning in a large human study of men with prostate cancer and their use of metformin.⁴⁴ Among 1,001 men with prostate cancer and 942 cancer-free controls, metformin use was significantly more common in the control patients, resulting in a risk reduction of 44%. This finding is especially powerful considering that men taking metformin in this retrospective study were much more likely to have been diabetic, and so their risk for cancer could be expected to have been higher!

Pancreatic Cancer

Pancreatic cancer is one of the most lethal human diseases, with a nearly-100% fatality rate, and experts are desperate for new biochemical targets that will help control this disease.⁴⁵ One such novel target that has been proposed is IGF-GPCR, an interaction between IGF receptors and a powerful group of signaling proteins called G protein-coupled receptors (GPCR). Metformin administration disrupted the IGF-GPCR interaction and thereby significantly decreased the growth of pancreatic cancer cells grafted into susceptible mice.⁴⁶

Metformin also triggers pancreatic cancer cell death by apoptosis by activating caspase, a “death signaling” or “executioner” molecule.⁴⁷

These laboratory findings help explain the remarkable protective effects of metformin in preventing pancreatic cancer in living humans. A large hospital-based case-control study of 973 patients with pancreatic cancer and 863 healthy controls demonstrated a dramatic risk reduction of 62% in diabetic patients who had taken metformin compared with those who had not.² The difference wasn't related solely to reduction in blood sugar, since diabetic patients who had taken insulin or insulin-promoting drugs enjoyed no similar protection. This study, of course, could also be interpreted to show how insulin-promoting drugs and insulin itself increases cancer risk. Life Extension has long warned about the carcinogenic risks associated with elevated insulin levels. Fortunately, another benefit of metformin is reducing insulin and glucose levels via several mechanisms.

Colon Cancer

Colorectal cancers are major public health problems, being the second most common cancers in developed countries.⁴⁸ As with other malignancies, colorectal cancer risk is increased in diabetics, and there is a growing body of evidence that advanced glycation end products (AGEs) and insulin-receptor interactions are involved in initiation of these common tumors.^{48,49} Naturally, these findings have piqued scientists' interest in using metformin, which decreases glucose and insulin levels, to prevent colorectal cancer.

Colorectal cancers are among those malignancies most closely associated with obesity.³⁸ Obese individuals are deficient in the protective hormone *adiponectin*, which activates tumor-suppressing AMPK.³⁸ Metformin, by independently activating AMPK, may short-circuit this deficiency and help to reduce its impact on colorectal cancer risk.³⁸

Metformin has at least one additional pathway by which it prevents colorectal cancer. It is related to the close connection between colon cancer and too many calories. Canadian scientists placed mice on either a normal or a high-calorie diet, and then injected them with viable colon cancer cells.⁵⁰ Seventeen days later they examined the tumors that the animals had developed. Tumors from mice on the high-calorie diet were twice the volume of those from normally-fed mice,

and their size correlated with elevated insulin levels. Metformin treatment blocked the effect of a high-calorie diet, reducing insulin levels and slowing the growth of tumors. Tumors from metformin-treated mice also showed increased rates of cell death by *apoptosis* compared with those from untreated animals.

Lung Cancer

More men and women die from lung cancer than from any other malignancy. In 2006, lung cancer caused more deaths than breast cancer, colon cancer, and prostate cancer combined.⁵¹ Clearly, new solutions to fighting lung cancer are greatly needed. Emerging research suggests that metformin may offer hope in combating this deadly disease.

Fighting Obesity and High Blood Sugar

Metformin, originally developed as a simple glucose-lowering drug for type 2 diabetics, is emerging as one of the few true “wonder drugs” of the century. Metformin improves glycemic control, helps prevent and treat obesity, and reduces insulin resistance. And those very characteristics are intimately related to metformin’s astonishing anti-cancer properties. Here’s an overview of metformin’s myriad, multi-targeted effects on obesity and its consequences.

Metformin is first-choice treatment for type 2 diabetes, with especially powerful effects on obese patients with high insulin levels.⁵³ But metformin is emphatically not just for diabetics. Metformin results in weight loss and improves insulin resistance, even in non-diabetic individuals.^{54,55}

We know that poor glycemic control leads to chronic diseases of aging. Reducing blood glucose levels thus has multiple benefits related to general health.

By enhancing insulin sensitivity, metformin protects obese patients from endothelial dysfunction and the cardiovascular disorders that result.⁵⁶ Metformin also decreases secretion of a variety of damaging cytokines that, unopposed, light inflammatory fires throughout the body.⁵⁷

And although metformin was long thought to exert its primary effects in the liver and other non-neurological tissues, the drug also has an appetite-suppressing effect on the central nervous system.⁵⁸ This all adds up to powerful potential in combating excess body weight.

Two challenging populations provide the best arena for demonstrating metformin’s anti-obesity effects.

Women with polycystic ovarian syndrome (PCOS) have abnormal sex hormone profiles that can lead to significant obesity despite aggressive dieting. And patients on the newer, second-generation antipsychotic drugs virtually all gain weight, and many develop the metabolic syndrome even at very young ages. Metformin has shown dramatic effects in reducing body weight, BMI, insulin resistance, and other manifestations of disordered metabolism in both of these populations.⁵⁷⁻⁶⁰

There’s hardly a body system that doesn’t benefit in some way from metformin’s profound impact. The case of cancer provides a perfect example. We now understand that obesity and its fallout on insulin levels and inflammation are important risk factors for many cancers.⁶¹

By promoting weight loss, metformin provides documented risk reduction and has crucial direct actions on some of the fundamental molecular pathways that lead to cancer. Those effects are themselves related to metformin’s calorie restriction-mimicking effects.⁶² Thus, we can see that metformin reduces the risk of obesity and fights cancer by closely interrelated mechanisms, promoting actual weight loss while also triggering the beneficial effects of calorie restriction at the cell and molecular levels.

In a recent example, a team of researchers at Stanford found that metformin significantly **decreases body mass index** in obese, *non*-diabetic adolescents. This marks a promising new advance in the battle against childhood overweight and obesity, which now afflicts almost one third of all children in the United States.⁶³

In a recent study, scientists examined the effects of metformin on an experimental form of lung cancer that is especially aggressive in obese subjects with high blood sugar. Animal subjects received either a control diet or a high-energy diet that typically leads to weight gain and insulin resistance, and selected subjects received metformin in their drinking water. After three weeks, the subjects were injected with lung cancer cells. Seventeen days later, animals on the high-energy diet had tumors that were twice the volume of animals on the control diet. Metformin significantly attenuated tumor growth in subjects consuming a high-energy diet. Metformin led to increased phosphorylation of AMPK and attenuated the increased insulin receptor activation association with a high-energy diet—both of which would be expected to decrease cancer proliferation.³

Additional research suggests that metformin may enhance the effects of radiation therapy in eradicating lung and other cancers.⁵²

While further studies are needed, these findings suggest that metformin may offer promise in the fight against lung cancer.

Summary

The list of cancers against which metformin is protective is growing rapidly, now including cancers of the prostate, pancreas, liver, lung, and other tissues.^{3,16,95,96} Since metformin acts by multiple pathways, most of which are fundamental to every kind of cancer, there's no reason to think that these results won't in fact be generalizable to every human malignancy.

The key fact about metformin is its ability, shared with other nutraceuticals but rare among other prescription drugs, to potently mimic the effects of calorie restriction. Metformin's calorie restriction-like effects trigger profound cellular changes in every mammalian tissue, activating tumor suppressing mechanisms

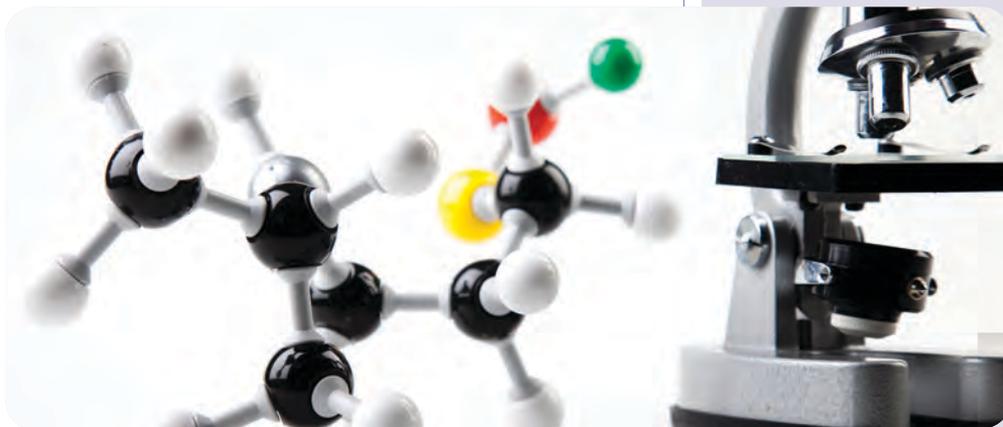
How Metformin Protects Against Cancer

Like calorie restriction, metformin activates an important molecule called AMPK (adenosine monophosphate-activated protein kinase) which senses cellular energy status.⁶⁴ AMPK is activated by a variety of cellular stresses including decreased energy availability—a known result of calorie restriction. It also modulates multiple metabolic pathways.⁶⁵

In the liver, AMPK reduces production of new glucose molecules, indirectly reducing levels of insulin and insulin-like growth factors (IGFs).⁶⁶ That's how metformin works to correct type 2 diabetes. But throughout the body, AMPK activation stimulates fatty acid oxidation, enhances insulin sensitivity, alleviates hyperglycemia and hyperlipidemia, and inhibits proinflammatory changes.⁶⁷ Those effects alone could be expected to have substantial anti-cancer benefits, in light of what we know about the role of glucose, insulin, IGFs, and inflammation in cancer development.⁶⁸

But there's more. Cancer cells have metabolic characteristics different from normal cells, making them vulnerable to metabolic manipulation (as opposed to chemotherapy's imprecise, wholesale poisoning of all body tissues).⁶⁹ So in cancer cells, AMPK activation triggers a unique cascade of molecular events that collaborate to suppress cancers.^{67,70} AMPK activation suppresses cancer cell proliferation; it does this by blocking the gene expression of specific cancer-promoting proteins.^{30,66} AMPK activation also breaks a critical link between obesity and postmenopausal breast cancer by blocking estrogen production within the breast tissue.²¹

Laboratory studies have now demonstrated that metformin's AMPK activation, and reduction of IGF, can suppress development and growth of cancer cells from breast, ovary, pancreas, and many other tissues.^{45,62,71,72} One of the most heartening findings has been the effectiveness of metformin against even some of the most aggressive forms of breast cancers, which disproportionately affect younger women.^{23,66}



A New Pathway for Cancer Reduction

There is late-breaking news that there is now an additional mechanism by which metformin can reduce the risk of cancer and metabolic disorders.

A molecular complex called mammalian target of rapamycin (mTOR) functions as a “metabolic integrator,” receiving inputs about energy and stress levels and translating them into cellular actions.⁷³⁻⁷⁵ And when mTOR signaling goes awry, it triggers numerous events, including those leading to a variety of cancers.⁷⁶ Aberrant mTOR activation, in fact, has now been added to the list of biochemical abnormalities that contribute to many of the chronic diseases of aging.^{77,78}

Calorie restriction inhibits the action of mTOR, thereby reducing the risk of many diseases of aging.^{79,80} Scientists have known for a decade that metformin inhibits mTOR in a fashion similar to calorie restriction. But until recently they'd thought that the mTOR inhibition was simply another result of metformin's AMPK activation.^{46,81,82}

George Thomas, PhD, scientific director of the Metabolic Diseases Institute at the University of Cincinnati⁸³ and his colleagues have discovered that metformin efficiently inhibits mTOR—completely independent of its effect on AMPK.⁷⁶ That supports and extends the few previous studies that had shown an AMPK-independent action for metformin.⁸⁴⁻⁸⁷ Together these findings have tremendous implications; Thomas himself recently said this, **“Metformin is already prescribed to 100 million people worldwide, and our study raises the question, ‘Could this drug be used even more widely?’”**⁸³

The fact is that mTOR inhibitor drugs have been in use for at least 5 years, primarily in managing transplant rejection, and recently in certain forms of cancer.⁸⁸⁻⁹⁰ But these drugs, based on a failed antifungal drug called rapamycin (also called sirolimus), have tremendous toxicity. Fortunately in mid-2010, a lab study demonstrated greater anticancer effects with metformin than with rapamycin.⁹¹

The discovery of metformin's direct mTOR-inhibitory effects, then, means this dramatically new mechanism of action is available to thousands of people who would have had no options other than facing the toxicity of the traditional mTOR inhibitors.

while suppressing tumor activating mechanisms. By lowering chronic blood sugar levels and limiting lifetime exposure to insulin and insulin-like growth factors, metformin can directly reduce cancer risks related to these factors.

The wealth of evidence of metformin's anti-cancer activity is now expanding to include not only those with diabetes or pre-diabetic conditions, but also people who are apparently otherwise healthy. This means that anyone who is serious about a comprehensive approach to cancer prevention should give serious consideration to using metformin just as faithfully as they use other calorie restriction-mimetic supplements.

Those seeking to gain the longevity benefits associated with reduced glucose and insulin levels can benefit tremendously from metformin.

As you read in last month's issue, optimal fasting glucose should be around **80 mg/dL**. Metformin can help aging humans achieve these lower and healthier glucose levels. Typical doses are **250 mg** to **850 mg** taken before two or three meals each day. Refer to the box on the following page for information about who should not take metformin. ●

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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Metformin May Help Treat Hepatitis C Infection

New research suggests that anti-diabetic drugs such as metformin and AICAR, currently used to fight obesity, may benefit patients with hepatitis C by preventing replication of the virus in the body.⁹² Hepatitis C affects about 3% of the world's population, many of whom will develop cirrhosis or liver cancer. Currently there is no vaccine or cure.

Metformin and AICAR work by stimulating the cellular energy-regulating enzyme AMPK, which the hepatitis C virus represses in order to replicate. When hepatitis C-infected cells were treated with metformin, virus replication was halted, allowing cells to clear the infection.

Based on this finding, a clinical trial will begin shortly at the University of Nottingham to explore metformin's applications in the management of hepatitis C.

Who Cannot Use Metformin

Metformin has been associated with an increase risk of lactic acidosis, a rare but potentially fatal buildup of lactic acid in the blood. Since congestive heart failure, kidney impairment, and liver problems increase the risk of lactic acidosis, individuals with these conditions are advised against using metformin. People with metabolic ketoacidosis and people taking both gemfibrozil and itraconazole should not take metformin.⁹³ Individuals with type 1 diabetes should also not take the drug. People who have recently suffered a heart attack or stroke and those who have recently undergone surgery or are severely dehydrated are more vulnerable to lactic acidosis.⁹⁴ Consult with your doctor if any of these conditions applies to you or if you are pregnant, planning to become pregnant, or breastfeeding.

Lactic acidosis is a medical emergency. Symptoms include muscle pain, difficulty breathing, sleepiness, feeling extremely weak or tired, and abdominal pain with nausea, vomiting, or diarrhea.⁹³

There have been some reports that metformin can decrease TSH levels in people with an underactive thyroid or Hashimoto's thyroiditis. These reports suggest that metformin may suppress TSH levels, perhaps without effecting thyroid hormone levels. However, more studies involving larger groups of people are needed before any conclusions can be made about metformin, TSH level, and thyroid hormone levels.^{97,98}

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Metformin May Protect Smokers Against Lung and Colorectal Cancer

Two recent articles in the medical journal *Cancer Prevention Research* reveal that smokers may have a much lower risk of suffering lung cancer and colorectal cancer if they take the drug metformin.

Metformin is a popular drug used to combat diabetes type 2, however, two studies show it holds promise as an anticancer drug as well. A study conducted by the scientists at the National Cancer Institute, led by Dr. Philip Dennis, revealed a significantly lower lung cancer tumor rate in mice that were given metformin and exposed to a prevalent tobacco carcinogen.⁹⁷ The mice injected with metformin had 72% fewer tumors.

A second study conducted by scientists in Japan revealed that non-diabetic individuals who took metformin had a considerably reduced rate of rectal aberrant crypt foci, a surrogate marker of colorectal cancer.⁹⁸

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When It Comes to Maintaining Healthy Body Weight Time is the Enemy

Turn Back the Clock on Calorie Absorption with LuraLean®

Remember when you were young and ate whatever you wanted without thinking twice? Back then, your body burned through calories so fast, you didn't have to worry about it.

Time has long since turned the tables—and turned your body against you. Unavoidable age-related metabolic changes have transformed perfectly normal digestive processes into **dietary dangers**.

For instance, **carbohydrates** and **fats** pass into your bloodstream after each meal almost the same way they did when you were young . . . but your body simply can't utilize them as efficiently. The result? Repeated spikes in **triglycerides**, **blood sugar**, and **insulin** that negatively impact your health, expand your waistline, and ultimately affect every system in your body over time.

Now you can safely *blunt* these dangerous after-meal effects with new **LuraLean® Special Propolmannan Particle Size**, a digestive modulator for healthy body weight.

Patented High-Density Fiber Blocks Deadly Surplus Calories

LuraLean® consists of *propolmannan*, a highly purified, natural dietary fiber patented in 33 countries. It comes from *Amorphophallus japonica*, a rare tuberous plant found only in the mountainous regions of northern Japan.

Propolmannan boasts the **highest molecular weight** of any water-soluble fiber in the natural world.¹ Using cutting-edge technology, it has been reduced to a **special particle size** that *maximizes* density while remaining in desirable **viscous** form.

NEW



Item #01470

A **500 mg** capsule of Propolmannan contains **more fiber** than the same milligram amount from other plants.¹ Just as importantly, natural enzymes that would otherwise cause it to break down during digestion have been removed.²⁻⁷

This is what sets LuraLean® propolmannan apart. Because of its high molecular weight, particle size, durability, and viscous structure, LuraLean® passes intact through your entire digestive tract. Its unique “sponge-like” matrix then acts to impede **killer excess calories** from entering your bloodstream in three ways:

- **Absorbs** water and quickly expands in the stomach, to make you feel full faster
- **Impedes** the breakdown and assimilation of dietary fats by “soaking up” bile acids in the small intestine, shuttling them safely out of the body⁸
- **Slows** the rapid emptying of food from your stomach into the small intestine, blunting the after-meal glucose spike that would normally result

In other words, LuraLean® forms a stable, viscous barrier that *slows down* normal digestive processes intrinsic to body fat storage.

Placebo-controlled studies confirm its ability to induce moderate weight loss by reducing the rate of carbohydrate absorption and consistently lowering after-meal elevations in **blood glucose, triglyceride, and LDL** levels.^{9,10}

Four **500 mg** capsules of **LuraLean® Special Propolmannan Particle Size** taken before the two heaviest meals of the day can help you turn back the clock on age-related metabolic changes—and become an integral component of a science-based weight management program.

LuraLean® is a registered trademark of AHD International, Inc. This supplement should be taken in conjunction with a healthy diet and regular exercise program. Results may vary.

LuraLean® Propolmannan capsules

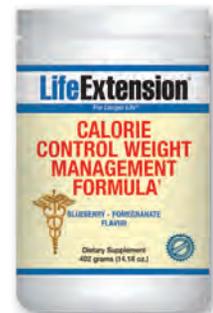
A bottle containing 120 vegetarian capsules of **LuraLean® Special Propolmannan Particle Size** retails for \$28. If a member buys four bottles, the price is reduced to just **\$18.75**.

LuraLean® Combined with Other Nutrients in Powder Form

For those who want additional nutrients that impede calorie absorption and down-regulate body fat storage, the **Calorie Control Weight Management Formula** provides the following in each scoop of great-tasting powder:

Propolmannan (LuraLean®)	2,000 mg
White Kidney Bean (Phaseolus)	445 mg
Irvingia gabonensis	150 mg
Green tea phytosome	150 mg

The retail price for a one-month supply of **Calorie Control Weight Management Formula** is \$56. If a member buys four bottles, the price is reduced to only **\$36**. The low cost of these ingredients in powder form, plus the convenience of not having to swallow a lot of capsules, makes it an ideal way to benefit from **LuraLean® propolmannan** and other calorie-regulating nutrients.



Item #01493

Contains soybeans and tree nuts. Contains corn.

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To order new **LuraLean® Special Propolmannan Particle Size Capsules** or the **Calorie Control Weight Management Formula** 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.

INTRODUCING

All-in-One HEALING FORMULA CREAM by Cosmesis®

**RED SPOTS. ABRASIONS. SWOLLEN,
PURPLE BLOTCHES AND SCARS.**
Even minor incidents can cause
major cosmetic problems.

When you were younger, these problem areas disappeared in a matter of days. Now they seem to last for weeks. And they crop up in more places than ever before: hands, arms, legs, feet, back, buttocks.

The fact is that as you age, your skin grows thinner and more fragile. The result? Age-related imperfections, blemishes, discoloration, areas of raised skin, and other stubborn eyesores become more frequent—and lasting.

That's why **Life Extension®** asked renowned dermatologist Gary Goldfaden, MD to formulate new **Healing Formula All-in-One Cream**. It brings together nature's most powerful skin protectors, revitalizers, and healing agents to offset the visible impact of minor trauma to aging skin, including:

- **VITAMIN K1.** Prized for decades by dermatologists to help minimize bruising, scarring, and blemishes—even after cosmetic surgery.¹⁻⁵
- **ARNICA MONTANA.** Extract of a European subalpine flower that's been clinically shown to help bruised or scarred skin.⁶ Arnica is rich in phenols (plant-based compounds) called *sesquiterpene lactones* that *penetrate*^{7,8} your skin's outer layer to deliver deep healing.⁹ It also contains the essential oil *thymol*, to moisturize and protect.
- **OATS.** Used since the days of the Romans, oats contain *avenanthramides*, naturally occurring compounds with proven anti-itching and soothing properties.^{10,11}
- **VITAMIN D.** As *cholecalciferol*, its quenching action locks in moisture, helping to counter the unsightly effects of your skin's gradually declining capacity to renew itself.

The result is a unique formula delivering a blend of high-potency, synergistic ingredients to preserve and protect your skin's healthy-looking, vibrant glow.

A 1 oz jar of **Healing Formula All-in-One Cream** retails for \$49. If a member buys two jars, the cost is just **\$31.50** per jar.

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December 9-11, 2010 Las Vegas, Nevada

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To many, **Suzanne Somers** has become the face and voice of alternative and integrative medicine. She has single handedly done with her past 4 books, what the movement has wanted to achieve for many years. Her louder voice and credibility built up over the past 33 years brought BHRT and chemical-free cancer cures to the forefront of modern medicine and has enlightened millions of men and women about available options in deciding on treatment protocols.

She has walked her talk for decades and will continue to forge new inroads in Medicine.

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- Environmental Toxins and Detoxification methods/Liver Detoxification
- Cancer Laboratory measures and markers
- Exercise with Oxygen to improve Mitochondrial Metabolic Function
- Clinical Application of Interventional Endocrinology
- Aesthetic medicine and laser-light therapies
- Immune Rejuvenation in people 55 years or older/ Joint and Spine Renewal
- Sleep Revitalization and Sleep Disorders
- Advanced Facial Sculpting with Botox
- Light-wave Photo Therapy
- Genomics and Genetic testing

Not to be missed Workshops:

- Menopause/Andropause: Improving the Health and Happiness of your Patients with Bio-Identical Hormones
Presented by: Jonathan V. Wright, MD and Daved Rosensweet, MD
- A Comprehensive Approach To The Diagnosis And Treatment Of Adrenal Fatigue
Presented by: James L. Wilson, ND
- The Nuts and Bolts of Hormone Restoration in Men & Women
Presented by Sangeeta Pati, MD, FACOG
- Integrative and Holistic Therapies for the Urologist
Presented by Aaron E. Katz, MD

Keynote Speakers:



Ken Dychtwald, PhD



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Novel Compounds from the Sea

Promote Younger-Looking Skin

BY GARY GOLDFADEN, MD AND ROBERT GOLDFADEN

When you hear the words “water retention,” you probably think of feeling bloated and fat. But did you know that water retention at the *cellular* level is the key to younger-looking skin?

Scientists have long sought new ways to increase your skin’s ability to hold water in order to combat the inevitable drying, flaking, and wrinkling that comes with age. In a remarkable development, they have recently identified a novel link between the way marine organisms and skin cells *retain water* in order to stay properly hydrated.

The result is a spray-on moisturizing agent that combines *homarine*, a compound used by certain mollusks (shellfish) that protects skin cells’ from electrochemical imbalance, and *erythritol*, a nutrient that improves skin cells ability to hold water.

Its power to *restore* moisture to aging skin has proven compelling in clinical trials. Among a group of women between the ages of 27 and 63, this novel moisturizer boosted water levels in surface skin cells by as much as **30%!> >**

The difference in physical appearance between the skin of a grape and that of a raisin is due to **moisture content**. This simple fact holds true for human skin as well. Keeping your skin well moisturized is a key factor in maintaining youthful appearance, softness, and flexibility.^{2,3} Proper hydration helps increase water content and permeability,²⁻¹⁰ thus leaving skin smooth and supple.^{2,3,11-14} Lack of adequate hydration negatively affects your skin's natural barrier function,¹⁵ causing the premature development of fine lines and dry, sagging skin. For the majority of people, the greatest enemies of skin moisture are normal aging and cumulative sun exposure, although many other factors such as smoking, the use of alkaline cleansers, mental stress, and low environmental humidity can also play a part. Drinking plenty of water is naturally essential to maintaining proper fluid balance, but the vital importance of using a topical spray to regularly hydrate your skin cannot be stressed enough.

Wetlands: A New Model for Skin Hydration

It may surprise you to learn that the flow of water in and out of estuaries (wetlands) has led to a novel strategy for keep aging skin hydrated, soft, and young-looking.

Estuaries are situated where rivers flow into the sea. They form a unique transitional zone between fresh water and saltwater marine environments. The inflow of both saltwater and freshwater provides high levels of **nutrients**, making estuaries among the most productive natural habitats in the world.

The wide variety of fauna and flora that exist in estuary systems are well-equipped with protective strategies to ensure their survival against major variations in heat, dryness, and salinity (salt content). For instance, every 6 hours along with the tides, wetland-dwelling organisms must adjust their metabolism to the changing salt content in the water: 3.5% in sea water compared to 0.16% in freshwater. One organism in particular, a microalgae called *Platymonas subcordiformis*, responds to these fluctuations in salinity by altering its cell volume (water potential) and by controlling the number of elemental chemicals that actively affect water balance, including **potassium, calcium, and sodium** ions.

The survival strategy of this single-celled alga ultimately led to a compelling model for ensuring optimal water balance in your skin. It also led to an ingredient isolated by a team of dermatologists that *harnesses* its power to stay optimally hydrated.

A Spray-on Moisturizer from the Sea

The outer layer of your skin suffers shocks in response to heat, cold, wind, detergents, and UV radiation that dry out your skin. Like the microalgae in the wetlands we talked about earlier, your *stratum corneum* (outermost skin layer) must also achieve proper water balance in order to maintain normal cell functionality.

A new hydrating ingredient called **Aqualance™** contains a specific molecular compound made up of *homarine* and *erythritol*.



- **Homarine**, (N-methylpicolinic acid) is a metabolite found in certain marine mollusks. It is what scientists call a **cyclic zwitterion**—a chemical compound that has a total net charge of 0 and is thus electrically neutral. It is this unique molecular structure of homarine that **counteracts the ion disequilibrium within a cell**.
- **Erythritol** is a natural sugar alcohol that exhibits outstanding permeation properties and **improves the water holding capacity of a cell**.

The combination of these two substances helps ensure proper water balance in cells and progressively rehydrates the different layers of aging skin.

A recent clinical study performed on a twenty women aged 23-67 years old illustrates the effectiveness of this hydrating compound (Aqualance™). Participants applied a topical solution of its two ingredients (homarine and erythritol) twice-daily to one leg and compared it against a placebo on the other leg. Three different measurements of skin moisture were conducted after 1 and 8 days.

The results of all these evaluations showed that Aqualance™ (homarine and erythritol) provided a dynamic moisturizing effect which complemented the skin's natural moisture gradient. **Water levels in the upper layers of the skin were rapidly increased by as much as 30%, while moisture in the deeper layers of the dermis (which naturally contains more water) increased by up to 13%.** In addition, water levels naturally stabilized in the stratum corneum in just 1 hour, in the epidermis after 2 hours, and in the deeper skin after 24 hours.¹

This new skin moisturizing agent effectively counterbalances the drying effect of transepidermal water loss and helps maintain optimal water content in the cell, leaving skin visibly softer and smoother.

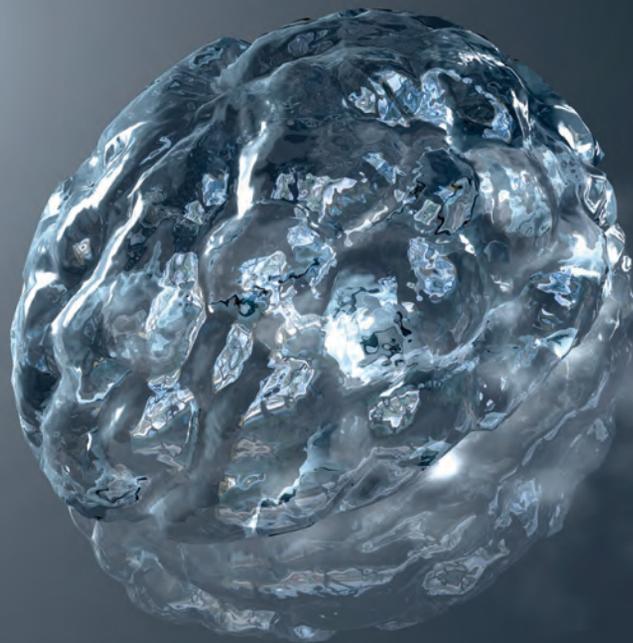
Hydrating Power with Hyaluronic Acid

Hyaluronic acid (or hyaluronan) is a carbohydrate polymer that is one of the major components of the skin's extracellular matrix. With its ability to attract and retain water, hyaluronic acid adds volume to the gel-like matrix surrounding the network of collagen fibers that support the skin. This function adds vital moisture and structural integrity to the dermis. In addition, new studies have shown that hyaluronic acid's capacity to bind to a cell-surface receptor called **CD44** allows it to play a vital role in stratum corneum barrier function and hydration through its ability to aid in keratinocyte differentiation and extracellular lipid formation.¹⁶⁻¹⁸



Promoting Younger-Looking Skin

- Your skin cells' ability to retain water is one of the keys to combating age-related drying, flaking, and wrinkles.
- Scientists have long sought new ways to increase water retention in aging skin.
- A novel link between the natural hydration-balancing mechanisms of marine organisms and skin cells has led to a breakthrough molecular moisturizer.
- It combines **homarine**, a compound used by certain mollusks (shellfish) that protects skin cells from electrochemical imbalance, and **erythritol**, a nutrient that improves skin cells' ability to hold water.
- In a clinical trial involving women between the ages of 27 and 63, this novel moisturizer boosted water levels in surface skin cells by as much as **30%**.



Hyaluronic acid.

Roughly one-third of the hyaluronic acid in your body is turned over daily through a continual process of breakdown and synthesis.¹⁹ Although hyaluronic acid is plentiful in young skin, by the time you reach 50 years of age, nearly half your skin's reserves will be destroyed by free radical production. Hyaluronic acid's proven ability²⁰⁻²⁶ to increase cell renewal and help restore healthy texture, color, and moisture to aging skin makes it a particularly important ingredient in any topical formula dedicated to skin care and hydration.

Roughly one-third of the hyaluronic acid in your body is turned over daily through a continual process of breakdown and synthesis.

Summary

Scientists have long sought new ways to increase the ability of aging skin to retain water in order to combat the inevitable drying, flaking, and wrinkling that comes with age. They have recently identified a novel link between the way marine organisms and skin cells **retain water** in order to stay properly hydrated. The result is a revolutionary moisturizing agent that combines **homarine**, a compound used by certain mollusks (shellfish) that protects skin cells from electrochemical imbalance, and **erythritol**, a nutrient that improves the skin cells' ability to hold water. Its power to *restore* moisture to aging skin has proven compelling in clinical trials. Among a group of women between the ages of 27 and 63, this novel moisturizer boosted water levels in surface skin cells by as much as **30%**. ●

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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Quit Eating More Than You Want To!

Do you often find yourself snacking between meals? Resolve to stop, but can't help reaching for that extra cookie? Are you losing the "battle of the bulge" because you have difficulty exercising portion control?

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An Ancient Solution to a Modern Problem

Satiereal[®] is a clinically studied, proprietary extract of **saffron**. You know saffron as a spice. What you may not know is that it has been prized in traditional cultures since ancient Persia as a way to enhance mood and relieve stress.^{1,2}

Previously available only in Europe, this standardized saffron extract provides support for healthy body weight by targeting some of the emotional factors that make you eat more when you're *trying* to eat less.

The suggested daily serving of just two **88.25 mg** capsules of new **Optimized Saffron with Satiereal**[®] delivers the active constituents **safranal** and **crocin**. They have been shown to modulate certain *serotonergic* receptors in the brain to support mood.³⁻⁶ In clinical studies,^{7,8} women taking Satiereal[®] experienced . . .

1. 100% reduction in the desire to snack
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6. Better mood

Feel Better About Food Again

In fact, they reported feeling better about themselves *and* better in general. The result was a greater sense of control over between-meal snacking, and a change in eating behavior, without that "jittery feeling" or other undesirable effects.⁸

The same can happen for you.

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No more midnight "kitchen raids."

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The fact that Satiereal[®] induced significant reductions (100%) in the desire to snack, but with only moderate weight loss, is further support for the multi-pronged approach needed to effectively manage weight that has long been espoused by Life Extension[®].

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

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



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Our Independent Thinking

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

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

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

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Without proper hydration, the skin's natural barrier won't function correctly. This leads to the typical tell-tale signs of aging: fine lines, sagging, and a dry "papery" look. While many try to combat this damaging dehydrating effect of aging by drinking plenty of water, an ideal way to maintain fluid balance of skin is through the use of a topical spray.

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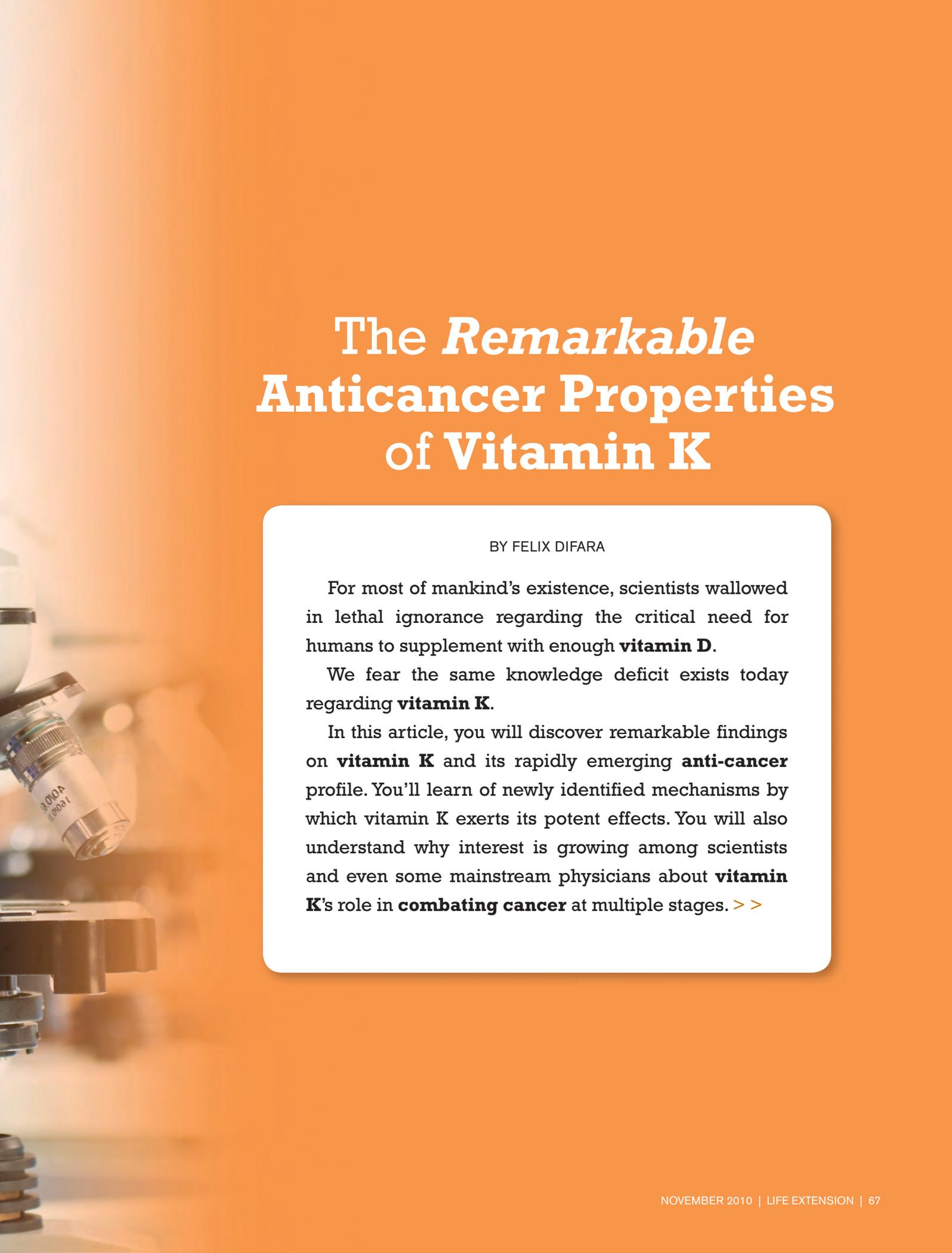
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The *Remarkable* Anticancer Properties of Vitamin K

BY FELIX DIFARA

For most of mankind's existence, scientists wallowed in lethal ignorance regarding the critical need for humans to supplement with enough **vitamin D**.

We fear the same knowledge deficit exists today regarding **vitamin K**.

In this article, you will discover remarkable findings on **vitamin K** and its rapidly emerging **anti-cancer** profile. You'll learn of newly identified mechanisms by which vitamin K exerts its potent effects. You will also understand why interest is growing among scientists and even some mainstream physicians about **vitamin K's** role in **combating cancer** at multiple stages. > >



Vitamin K: A New Frontier in Cancer Prevention

Vitamin K2 (menaquinone) has been shown to safely *suppress* growth and invasion of human **hepatocellular carcinoma**, a common and deadly form of **liver cancer**.^{1,2} It exerts multiple effects on these tumors, modifying growth factors and their receptor molecules in a way that makes them less able to stimulate tumor growth and progression.^{2,4} It freezes the cell cycle, blocking further replication.⁵ And it triggers programmed cell death by apoptosis through several distinctive mechanisms.⁶

Lab studies demonstrate tremendous potential for vitamin K in many other cancer types as well.⁷ Vitamin K2 induces certain kinds of human leukemia cells to differentiate, or turn into normal white blood cells.⁸ In cells from certain brain tumors, in stomach cancer, and in colorectal cancer lines, vitamin K halts the reproductive cell cycle and induces apoptosis.⁹⁻¹¹ Vitamin K also triggers a DNA-degrading protein that cancer cells normally suppress; thereby preventing tumor cells from repairing themselves effectively.¹²

Lung cancers are notoriously aggressive and difficult to treat. In several different types of lung cancer, including **small cell**, **squamous cell**, and **adenocarcinomas**, vitamin K induces apoptosis through activation of a “suicide protein.”¹³ Clinical trials of newer chemotherapy agents have been disappointing, but when vitamin K was added to one newer drug, *imatinib mesylate*, it rapidly suppressed growth in all lung

cancer cell lines tested.¹⁴ Vitamin K exhibits similarly synergistic effects in bladder and liver cancers as well.^{15,16}

A unique mechanism of vitamin K’s activity is so-called “oncosis,” a form of stress-activated ischemic cell death to which tumor cells are particularly susceptible.¹⁷ Because of their high growth rate, tumor cells consume vast amounts of **glucose**. And because they can rapidly outgrow their blood supplies, that high metabolism means they use up oxygen rapidly, making them especially vulnerable to oxidant stress—much more so than the healthy tissues around them. Vitamin K targets tumor cells for destruction by stimulating oxidative stress, without toxicity to healthy tissues.¹⁸

Another unique mechanism, demonstrated recently in bile duct cancers and leukemia, is autophagy, in which cancer cells essentially “eat” themselves by releasing their own digestive enzymes internally.^{19,20} By still another unique mechanism, vitamins C and K in combination contribute to cancer cell death by autschizis, whereby cells simply split open, spilling their contents.²¹

Finally, three of vitamin K’s synergistic anticancer mechanisms have recently been identified. Vitamin K3 inhibits DNA-building enzymes.²² Vitamins K2 and K3 *block* new blood vessel formation essential to support the rapid growth of tumor tissue.²²⁻²⁴ And vitamin K3 disrupts crucial intracellular communications networks composed of microtubules, preventing the cells from proliferating in a coordinated fashion.²⁵

Why Are Doctors So Slow to Catch On?

Despite more than **2.4 million** papers published on cancer research to date, conventional medicine has largely *failed* to identify safe, low-cost, effective methods of cancer intervention and prevention.¹

At the core of the problem is a pervasive arrogance and apathy within the field of oncology. Physicians unquestioningly rely on cookie-cutter treatments (chemotherapy, radiation) that do as much harm as good—and sometimes inflict hideous suffering on patients *without* improving their chances for survival. Worse, this “one-size-fits-all” mentality bars admittance to novel findings on *nutritional* strategies that combat cancer at multiple stages in its development.

Don’t expect to hear much from your doctor about vitamin K. It may be ten years before the medical establishment catches on to the remarkable properties of this low-cost nutrient.

Liver and Prostate Cancer: Improving Survival Rates

Vitamin K's promise in managing a variety of advanced solid tumors has been established in vitro and in animal studies, with benefits shown in lung cancers but not in gastrointestinal cancers, when combined with traditional chemotherapy.^{26,27} Other studies had already demonstrated that massive doses of vitamin K2, up to more than 2.5 grams given IV per day, were safe and caused no enhancement of the chemotherapy toxicity.²⁸

Additional positive findings came in the form of two case reports, also from Japan. In the first, a 72 year-old woman with leukemia who had failed standard therapy experienced complete remission after vitamin K2 was added to her therapeutic regimen.²⁹ In the second, an 85 year-old man with hepatocellular carcinoma after hepatitis C infection chose to take vitamin K but no chemotherapy.³⁰ His tumor markedly regressed by CT scan, and his tumor markers in blood all normalized.

A study from Uruguay demonstrated that serum markers in a group of prostate cancer patients indicated tumor cell destruction following supplementation with vitamins C and K.³¹

Recently published studies have revealed vitamin K's power to reduce recurrence of liver cancer—extending and even saving lives. The first reported on 61 patients documented to be free of their cancers following surgical treatment. Thirty-two were assigned to receive a vitamin K2 analogue called *menatetrenone*, while 29 received placebo.³² The supplemented group had recurrence of tumors of 12.5% at 12 months, 39.0% at 24 months, and 64.3% at 36 months. In the control group the recurrence rates were significantly higher: 55.2%, 83.2%, and 91.6%, respectively. And 100% of the supplemented group survived a full year, with 87% still alive at 36 months; among controls those numbers were 96.4% and a dismal 64%, respectively.

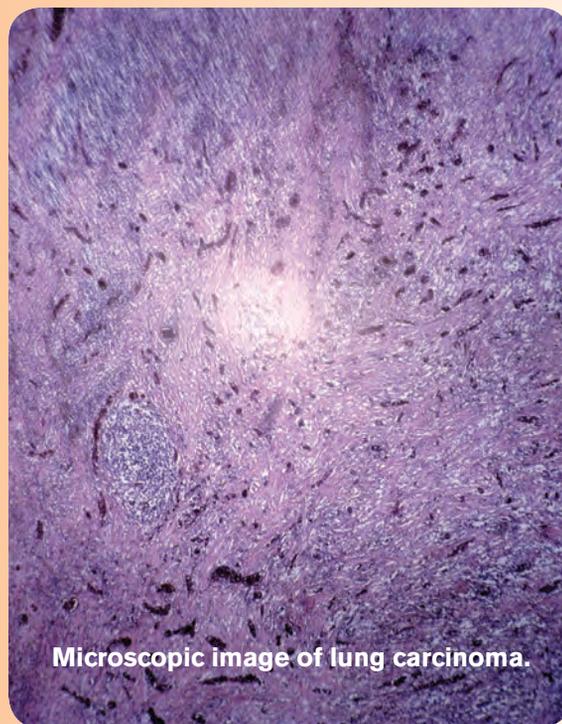
In a smaller study with 45 patients,³³ rates of recurrence were only 33.3% in patients treated with vitamin K compared with 50% in controls. And survival rates tended to be modestly higher in treated patients.

A 2007 study provided some additional support, showing a significant reduction in tumor recurrence, but not survival rates, over a 3-year period in supplemented patients.³⁴ More studies are needed.

Studies of combination therapies have now provided strong evidence favoring vitamin K2 both in **liver** and **prostate cancer**. A group of US urologists studied the combination of vitamin K3, **50 mg per day**, plus vitamin C at 5,000 mg per day in treating prostate cancer patients who had failed standard therapy.³⁵

Vitamin K and Cancer

- Cancer remains a deadly threat for millions of aging Americans, despite decades of aggressive research.
- Standard cancer medications can only help after a cancer is discovered, and even then they are limited by toxicity.
- Standard cancer treatments attack only one or a few biochemical steps in the long cascade of events leading to tumor development.
- Long associated only with blood clotting, vitamin K is now known to have effects on tissues throughout the body, including most of the steps leading up to cancer.
- Recent discoveries about vitamin K illustrate the tremendous breadth of its targets, spanning virtually every phase in cancer's deadly progress.
- A solid base of laboratory science is complemented by compelling clinical evidence that vitamin K can prevent, and in some cases treat, a variety of common and dangerous cancers.



Microscopic image of lung carcinoma.

They showed that treatment significantly decreased the velocity of rise in PSA, the serum marker of disease, while increasing the time it took for PSA levels to double. And only one patient in this group of advanced

consequences of that disease. But unlike leukemia, MDS cells, at least early on, can be induced to develop into mature normal blood cells.^{39,40} And that's where vitamin K comes in.

Vitamin K2 also induces MDS cells to differentiate into healthy white blood cells

Vitamin K treatment of bone marrow cells from MDS patients potently induces apoptosis (programmed cell death) of the leukemic cells, with the effect much more prominent on blast cells than on mature white cells.^{41,42} Vitamin K2 also induces MDS cells to differ-

cancer patients died in the 14 months of treatment. This finding demonstrates vitamin K's disease-fighting credentials in a particularly compelling fashion, when combined with another readily available supplement.

The combination of vitamin K2 plus a drug in the ACE-inhibitor category (both of which reduce tumor blood vessel growth) also produced a marked decrease in recurrence of hepatocellular carcinoma.³⁶ The same research group showed that they could use that combination to stop a precancerous nodule from developing into liver cancer in a patient with hepatitis C-related cirrhosis.³⁷

Vitamin K2 in Action: The Case of Myelodysplastic Syndrome

"Myelodysplastic syndrome" (MDS) is a disorder related to **leukemia**; in fact it was formerly known as "pre-leukemia."^{38,39} In patients with MDS, the bone marrow begins churning out increasingly young white blood cells of various kinds. In most cases it goes on to full-blown leukemia, with all of the disastrous

entiate into healthy white blood cells, even when full-blown leukemia has developed.⁴³

Successful therapy of MDS with vitamin K2 was first reported in 1999, in an 80-year-old woman with persistent anemia from the disease. Prior to treatment she had required regular blood transfusions; 14 months later she was independent of them.⁴⁴ Similar benefits were found in a small group of MDS patients with refractory anemia in 2002.⁴⁵ And some improvements were also found in MDS patients with low white blood counts compared with those receiving no treatment.⁴⁶

The combination of vitamin K2 with vitamin D3 achieved good differentiation in a lab study of leukemia cells, suggesting that it might be effective therapy for both MDS and leukemia.⁴⁷ In a clinical study in mid-2010, the addition of vitamin D3 to vitamin K2 more than doubled the response rate of MDS patients with refractory anemia and low white blood counts, from 13% to 30%. Those are big numbers for conditions traditionally difficult to treat with standard chemotherapy!⁴⁸



Why You Need Vitamin K: The Triage Theory

Bruce Ames of the Children's Hospital in Oakland, CA, is noted for substantive, evidence-based reflections on cancer and the human condition. Together with colleague Joyce McCann, Ames has developed the so-called "Triage Theory," which has surprising relevance to our discussion of Vitamin K and cancer.⁴⁹ According to the theory, the body prioritizes micronutrient use, favoring functions required for short-term survival over those needed for longevity. Ames and McCann recently applied this thinking to the many newly-discovered roles of vitamin K in our bodies, including cancer prevention.

Here's an example: our cave-dwelling predecessors were constantly threatened by large predators (think saber-toothed tigers). Get mauled by one of those big cats, and you'd better have good blood clotting systems if you're going to survive. You'd need at least

enough vitamin K to prevent bleeding to death. But your chances of living to a ripe old age—hungry felines or otherwise—was quite low in those days. So it didn't really matter if you had enough vitamin K on board to prevent cancer—you just weren't going to get that old.

The reality in today's world is rather different, when in the absence of a bad accident most of us are quite safe from bleeding to death. So if we get only enough vitamin K to assure proper blood coagulation, we'll not get nearly enough to prevent cancer and other chronic conditions, such as osteoporosis or atherosclerosis, that rarely threatened our ancestors. McCann and Ames concluded their 2009 summary of this idea as follows: "much of the population... may not receive sufficient vitamin K for optimal function of vitamin K-dependent proteins that are important to maintain long-term health."

Summary

Cancer remains a deadly threat for millions of aging Americans, despite decades of aggressive research. Standard cancer medications can only help after a cancer is discovered, and even then they are limited by toxicity. Standard cancer treatments attack only one or a few biochemical steps in the long cascade of events leading to tumor development.

Long associated only with blood clotting, vitamin K is now known to have effects on tissues throughout the body, including most of the steps leading up to cancer. Recent discoveries about vitamin K illustrate the tremendous breadth of its targets, spanning virtually every phase in cancer's deadly progress. A solid base of laboratory science is complemented by compelling clinical evidence that vitamin K can prevent, and in some cases treat, a variety of common and dangerous cancers. ●

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

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Life Extension includes 10 mg of **sesame lignans** to each softgel of **Mega GLA** borage oil. Sesame lignans not only increase beneficial DGLA but they also prevent the conversion of GLA into the proinflammatory mediator arachidonic acid.¹ Blocking this pathway decreases the formation of destructive proinflammatory agents prostaglandin E2 and leukotriene E2.²

Numerous studies document GLA's multiple health effects. Enhancing this supplement with sesame lignans enables GLA to work much better in the body, allowing many more people with inflammatory-related problems to benefit from supplemental GLA.

The retail price of **Mega GLA with Sesame Lignans** remains the same at \$19.50 for 60 softgels that supply 1,300 mg of borage seed oil (providing about 299 mg of GLA), along with 10 mg of sesame lignans. If a member buys four bottles, the price is reduced to only **\$13.50** per bottle. *Contains soybeans. Contains sesame.*

**To order Mega GLA with Sesame Lignans,
call 1-800-544-4440 or visit www.LifeExtension.com**

References: 1. *J Nutr Sci Vitaminol [Tokyo]*. 2003 Dec;49[6]:442-6. 2. *Prostaglandins Leukot Essent Fatty Acids*. 1998 Mar;58(3):185-91.

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.

Don't Take This VITAMIN D!



...unless you are obtaining
VITAMIN K in supplements like:



Item #01380

Contains soybeans. Contains sesame.



Item #01224

Contains tree nuts (coconut).

The public is finally waking up to the urgent need to supplement with *high-potency* **vitamin D**. The problem is that most people will not obtain expected longevity benefits because they lack critically-important **vitamin K**.

Vitamin D is intimately involved with virtually every life process, but it cannot fully control where **calcium** is deposited in your body.

Whether calcium is used to *beneficially* build strong bones or *pathologically* calcify your arteries is regulated by **vitamin K**. In the absence of vitamin K, calcium is denied to bone and instead deposited in tissues throughout the body where it can harden to virtual stone.

Life Extension® members obtain potent doses of **vitamin K** in the **Super Booster** or **Super K** formulas. To ensure that those not taking these formulas are getting adequate vitamin K, either of the new products described in the box to the right provides potent doses of **vitamins D and K** in one daily capsule.

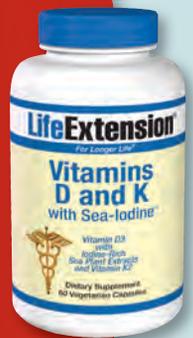
To order Essential Fat-Soluble Nutrients or Vitamins D and K with Sea Iodine™, call 24-hours a day 1-800-544-4440 or visit www.LifeExtension.com

Just one capsule of Vitamins D and K provides:

Vitamin D3	5,000 IU
Vitamin K (MK-4) (short-acting)	1,000 mcg
Vitamin K (MK-7) (long-acting)	100 mcg
Sea-iodine™	1,000 mcg

A bottle containing 60 vegetarian capsules of **Vitamins D and K with Sea Iodine™** retails for \$24. If a member buys four bottles, the cost is just **\$16.50** per bottle.

May contain fish and crustacean shellfish. Contains rice and corn.



Item #01472

Just one softgel of Essential Fat Soluble Nutrients provides:

Vitamin D3	7,000 IU
Vitamin K2 (MK-7)	100 mcg
DHA (from fish oil)	500 mg
Gamma tocopherol	215.4-244.12 mg
Delta tocopherol	89.75-125.65 mg
Alpha tocopherol	17.95-35.9 mg
Beta tocopherol	0-7.18 mg

A bottle containing 30 softgels of **Essential Fat-Soluble Nutrients** retails for \$28. If a member buys four bottles, the cost is just **\$18.75** per bottle.

These formulas make it convenient for those who understand the importance of high dose of **vitamin D** to automatically obtain the calcium-regulating benefits of **vitamin K** plus their vitamin D and other essential nutrients.

Contains fish (tuna) and soybeans. Contains corn.



Item #01428



Flawed Analysis *Misleads Public* About Calcium and Heart Attack Risk

The media is at it again—reporting deceptive propaganda by the medical establishment as if it were scientific fact.

Just imagine the epidemic of osteoporosis that will occur if women stop taking their calcium supplements. That will happen if the public relies on mainstream news reporters to make their health decisions.

In a biased and horrifically flawed analysis, a group of doctors came to the conclusion that calcium supplements increase heart attack risk by 27%.¹

Omitted from the media reports were critical facts such as the exclusion of people who took vitamin D, magnesium, or other nutrients typically found in bone protection formulations.

In other words, calcium-supplemented study subjects (who the mainstream claims suffered higher heart attack rates) would have been seriously deficient in vitamin D and magnesium—two essential nutrients that protect against heart attack.

The doctors who compiled this analysis also conveniently omitted major clinical trials showing that those with higher calcium intake had significantly lower cardiovascular rates.

A technical rebuttal by Steven Joyal, MD, to this flawed study appears on the next page. We need to emphasize, however, the criti-

cal need to supplement with other nutrients when taking calcium for optimal effect.

As we age, the body's internal regulators of calcium deposition become *dysfunctional*. Scientists have uncovered a deficiency of **vitamin K** as being a factor that enables calcium to infiltrate the inner lining of arteries to cause arterial calcification. By ensuring optimal vitamin K status, calcium is directed to the bone and away from the arterial wall. Fortunately, **Life Extension**[®] members obtain vitamin K in the **Super Booster** multi-nutrient caps, **Super K** capsules, and other formulas.

Magnesium is another critical nutrient for bone and cardiovascular health. Of interest, magnesium is considered a natural calcium-channel blocker.^{2,3} For optimal bone and cardiovascular health, nutritional experts for the past 40 years have urged those who take calcium to also supplement with magnesium and vitamin D. Life Extension members obtain magnesium and vitamin D in **Bone Restore** and other bone-support formulas.

Optimal bone health and protection against atherosclerosis requires a multifactorial approach that involves far more than taking only calcium. The recently published meta-analysis, flawed as it is, offers a valuable lesson to the serious supplement user, i.e., lack of careful scientific analysis creates seriously flawed conclusions. > >

Rebuttal to Meta-analysis Claiming that Calcium Increases Myocardial Infarction (Heart Attack) Risk

BY STEVEN JOYAL, MD

On July 30, 2010, a meta-analysis published in the *British Journal of Medicine* reported that calcium supplementation was associated with a significant increase in risk for heart attack. Specifically, of the 11 trials included, defined by the authors as having “trial level data,” the authors reported a 27% increase in relative risk for heart attack in patients allocated to calcium supplementation (pooled relative risk, 1.27; 95% confidence interval 1.01–1.59, p-value=0.038).¹

A careful examination of the study methodology reveals several major flaws that severely compromise the authors’ conclusions.

In addition, four of the contributing authors of this meta-analysis were involved in pharmaceutical development trials involving calcium supplementation, including Wyeth, Mission Pharmacal, Shire Pharmaceuticals, and Nycomed.

FOUR MAJOR FLAWS IDENTIFIED IN STUDY:

1. Alarming levels of vitamin D deficiency and exclusion of trial data involving vitamin D3 supplementation in combination with calcium supplementation

The study authors indicate that vitamin D3 supplementation reduces mortality,⁴ yet excluded trials that used vitamin D3 in combination with calcium supplementation vs. a placebo comparator.



In fact, vitamin D deficiency has been shown to increase cardiovascular risk.⁵ Careful review of the 11 studies with trial data included by the authors in the meta-analysis reveals very low levels of 25-hydroxy-vitamin D3, ranging from 18.0 to 37.2 ng/mL (optimal levels are over 50 ng/mL).

Based upon the vitamin D insufficiency observed in the trial data included in this meta-analysis, the finding of an increase in heart attack risk is not surprising.

2. Exclusion of several major trials that showed significant reductions in cardiovascular morbidity and mortality with calcium intake

The Boston Nurses’ Health Study found that women in the highest fifth for calcium intake from supplements and diet had an adjusted relative risk of ischemic stroke of 0.69 (95% confidence interval 0.50 to 0.95) compared with those in the lowest fifth;⁶ this translates to a 31% reduction in stroke in those with the highest calcium intake.

The Iowa Women’s Health Study found a one-third reduction in deaths from cardiovascular events in women whose calcium intake from supplements and diet was in the highest fourth compared with those in the lowest fourth;⁷

The United Kingdom study of ischemic heart disease and calcium intake reported higher calcium intake reduced mortality for ischemic heart disease.⁸

3. Lack of consistency with other studies showing reduction in biomarkers of cardiovascular risk with calcium supplementation

Calcium supplementation, as well as dietary calcium, reduces blood pressure,⁹ a major risk factor for heart attack and stroke;

Calcium supplementation increases the ratio of high density lipoprotein (HDL) cholesterol to low density lipoprotein (LDL) cholesterol by almost 20% in healthy postmenopausal women;¹⁰

Calcium supplementation reduces body weight and promotes reductions in blood pressure in aging women.¹¹

Given the alarming level of vitamin D deficiency observed in the trial data included in this meta-



analysis, the finding of an increase in heart attack risk is not unexpected. Furthermore, exclusion of a variety of calcium trials that show beneficial effects on cardiovascular risk (as well as blood pressure and body weight) suggests author bias.

4. Lack of appreciation for the critical role of vitamin K in bone and cardiovascular health

A characteristic of normal aging involves calcification in soft tissues throughout the body such as heart and blood vessels.¹²⁻¹⁴

In contrast to the stated conclusion (i.e. calcium supplementation is associated with an increase in heart attack risk) of the current meta-analysis, scientific experiments suggest the opposite to be true. For example, in validated models of atherosclerosis, calcium-deficient diets increase the rate of tissue calcification by 170% while calcium-supplemented diets, on the other hand, reduce calcification by 62%.¹⁵

The explanation for this apparent contradiction is that in response to insufficient blood levels of calcium, the body robs our bones¹⁶ and, without adequate vitamin K, saturates the arterial wall with calcium. In the arterial wall, vitamin K regulates a protein (matrix Gla protein) that protects against arterial calcification.

The importance of vitamin K for bone and cardiovascular health was not discussed, acknowledged, or described by the authors in this meta-analysis claiming that calcium increases heart attack risk. Vitamin K is critical to ensure optimal carboxylation of matrix Gla protein (MGP) in healthy subjects. The majority of MGP in the carotid arterial lining of patients with atherosclerosis is undercarboxylated.¹⁷ Serum undercarboxylated MGP is decreased in patients at risk of cardiovascular calcification due to deposition of undercarboxylated MGP in areas of vascular calcification.¹⁸

Most Life Extension® members already obtain high doses of vitamin K in the Super Booster or Super K formulas.

Health conscious individuals should make sure they are supplementing with at least 300-500 mg of elemental magnesium each day. Some people require higher magnesium intake for optimal tissue saturation. Those with kidney impairment are not always able to safely take higher doses of magnesium. ●

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The UK study... reported higher calcium intake reduced mortality for ischemic heart disease.

POWERFUL PROTECTION AGAINST LDL Oxidation and Proinflammatory Cytokines

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

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

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

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

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

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

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Item #01304

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

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

BONE Strength Formula with KoAct™

The use of diets high in **collagen** to improve bone health dates back to ancient cultures. That's why Life Extension® formulates an exciting patented formulation of chelated **calcium and collagen** called **KoAct™** to help maintain **bone strength** and **mineral density**.* KoAct™ allows for greater flexibility...so your bones can absorb energy, **reducing the risk of age-related injuries**. Additional plant extracts are included for their bone-protective minerals and polyphenols.

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

Contains corn.



Item #01211

Four capsules of Bone Strength Formula with KoAct™ provide:

Collagen (from 3000 mg KoAct™ Calcium Collagen Chelate)	2,700 mg
Calcium (from 3000 mg KoAct™ Calcium Collagen Chelate)	300 mg
Vitamin D3 (as cholecalciferol)	1,000 IU
Magnesium (as magnesium citrate)	100 mg
Silica [from standardized Bamboo (<i>Bambusa vulgaris</i>) extract (stem)]	5 mg
Dried Plum (<i>Prunus domestica</i>) extract (fruit) [standardized to 50% polyphenols (50 mg)]	100 mg
Boron (calcium fructoborate as patented FruiteX B® OsteoBoron®)	3 mg

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

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

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

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



Mainstream Doctors' Ineptitude Put on Display in the *New England Journal of Medicine*

BY STEVEN JOYAL, MD

A study published online in the **June 30, 2010** edition of the *New England Journal of Medicine*¹ confirms how little conventional doctors know about prescribing **testosterone** to aging men.

The **Life Extension Foundation**[®] long ago recognized that maturing men have a propensity to convert (aromatize) **testosterone** into **estrogen**. When you see an overweight man growing breasts, it is not directly because he eats too much. This phenomenon is instead caused by the testosterone he *converts* to breast-enlarging **estrogen**.²

When men are prescribed testosterone gels or creams, they sometimes have to take an aromatase-inhibiting drug (like Arimidex[®]) to prevent their estrogen (measured as estradiol in the blood) from climbing to dangerous levels.³

Optimal **estradiol blood levels** in men are between **20-30** pg/mL.⁴ Elderly males can have much higher estradiol levels that place them at substantial risk for developing **coronary atherosclerosis** and **thrombotic stroke**.^{5,6}

If elderly men are prescribed **large doses of topical testosterone** gel or cream, their **estradiol** blood levels have to be tested and properly controlled. Failure to manage estradiol in men receiving high-dose testosterone gel or cream can result in a catastrophic **estrogen surge** that increases vascular disease risk and premature death. >>

Enormous Tax Dollars Squandered on Flawed Testosterone Study

The federal government provided a financial grant to an armada of doctors to evaluate the effects of high-dose testosterone on men who were so severely debilitated that they struggled to climb more than 10 stairs or walk the equivalent of two city blocks.

These men suffered numerous risk factors such as obesity, diabetes, hypertension, and elevated blood lipids that placed them at higher risk for cardiovascular events. Obese men tend to produce loads of estrogen in their abdominal fat—and typically have higher estradiol levels than thinner men.

The men with the worst vascular risk factors (such as the highest triglyceride levels) were placed on a dose of topical testosterone that is TWICE the standard starting dose. These debilitated men were given testosterone in a way that is more likely to aromatize through the skin into estrogen.

Men with fewer vascular risk factors were given a placebo gel.

It should be no surprise to learn that this study was halted prematurely because the debilitated men given the high-dose testosterone (with no aromatase inhibitor) suffered more “atherosclerosis-related events” such as heart attack, stroke, and sudden death.¹

The official title of this study is “Adverse Events with Testosterone Administration.” A more accurate title may have been: “*Elevated Estrogen Leads to Cardiovascular Events in Older Men.*”

To read *Life Extension’s* recent review about the dangers of estrogen imbalance in aging men published in the May 2010 magazine issue, visit: www.lef.org/maleestrogen

Life Extension Writes a Letter to These Doctors

The day this study was published, **Life Extension**[®] wrote the doctors who conducted it asking if there were any data regarding baseline and post-baseline blood **estradiol** levels. We have waited over eight weeks, and the authors of the *New England Journal of Medicine* study have not responded to our repeated requests as to whether **estradiol** levels were ever measured.

From what was written in the paper, it does not appear that any attention was paid to the estrogen levels in these debilitated men. The authors wrote in the discussion section of the paper, “*Testosterone and associated increases in estradiol may promote*

inflammation, coagulation, and platelet aggregation.”¹ Yet these doctors don’t appear to have done anything to evaluate estradiol levels in the unfortunate study subjects given double-dose testosterone with no aromatase inhibitor to suppress the expected **estrogen surge**.

This Study Had Numerous Other Flaws

Leaving aside the failure to manage **estradiol** levels in men given high-dose testosterone gel, there were numerous design flaws that call into question any conclusion that can be drawn from this study.

As mentioned earlier, the testosterone group at baseline was at greater risk for cardiovascular events as manifested by a greater proportion of men in the testosterone group with dyslipidemia who were undergoing statin and antihypertensive drug treatment.

In addition, triglyceride levels (higher) and HDL levels (lower) were trending against the testosterone group. Clearly, the baseline cardiovascular risk for the testosterone group was higher than the placebo group. The authors claim that a sensitivity analysis, as well as controlling for cardiovascular risk factors, did not change the results, but the small sample size and relatively short trial duration serve to magnify, not minimize, differences due to chance.

The study was not designed to systematically assess for cardiovascular events, and given the small sample size, lack of consistent pattern of events, diversity of serious events, and small number of serious adverse cardiac events (10 vs. 1) in the two treatment groups before study stoppage in this short-duration trial strongly suggest that the results are due to chance. Another explanation, of course, is that the adverse vascular events were caused by the uncontrolled conversion of the topically-applied testosterone to estradiol in men who were already likely to have dangerously high estradiol blood levels to begin with.

Fodder for the Media

The published scientific data document low testosterone as being an independent risk factor for heart attack and a host of other age-related ailments.

The authors of this study acknowledge the benefits the testosterone group obtained from the drug and openly admitted the limitations of this study in providing guidance about the effects of testosterone on different population groups.



The media, however, has a propensity to publicize one negative study while ignoring hundreds of positive ones. We will not be surprised to see this horrifically flawed study used for decades to discredit the safety and efficacy of properly prescribed testosterone cream and aromatase-inhibition therapy.

Importance of Blood Testing in Men Supplementing with Testosterone

In response to overwhelmingly favorable studies, record numbers of aging men are rubbing testosterone creams or gels on their skin each day to restore this vital hormone to youthful levels.

Within 45-60 days of initiating testosterone replacement therapy, the following blood tests should be done to ensure safety and efficacy:

- **PSA** (prostate-specific antigen): To rule out prostate cancer
- **Estradiol**: To make sure testosterone is not converting to estrogen
- **Free and total testosterone**: To make sure enough testosterone is being absorbed
- **CBC/Chemistry panel**: To make sure liver enzymes are normal and red blood production has not increased too much

These tests can be done at your doctor's office, or you can order them all directly from Life Extension by calling 1-800-208-3444 (24 hours a day). These tests can retail for over \$500 at commercial labs, but **Life Extension** members pay only \$125 (Test code LC100001).

To review *Life Extension Magazine*® articles from July 2008 and December 2008 describing benefits of testosterone replacement in aging men, visit:

www.lef.org/maletestosterone
or
www.lef.org/replacetestosterone

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

Flawed Study Fails to Demonstrate Benefits of Testosterone

- A recent study published in the *New England Journal of Medicine (NEJM)* concluded that testosterone therapy increased the risk of cardiovascular events in men over age 65.
- A close analysis of the study reveals serious flaws that render the authors' conclusions meaningless.
- For example, the study enrolled individuals who were seriously debilitated and had a high prevalence of chronic disease.
- The group receiving testosterone had worse cardiovascular disease markers than the placebo group at the study's onset. Further, they received twice the usual starting dosage of topical testosterone.
- Testosterone converts to estradiol in the body via the aromatase enzyme. Higher estradiol levels increase cardiovascular risk via numerous mechanisms. Obese men more readily convert testosterone to estradiol.
- When men use testosterone therapy, they often need to also use an aromatase inhibitor to block the conversion of testosterone to estradiol.
- The *NEJM* study failed to measure estradiol levels in the study participants before or after testosterone therapy, even though the authors themselves acknowledged that excess estradiol increases the risk of inflammation, coagulation, and platelet aggregation.
- This study highlights that estradiol levels must be measured and maintained within a healthy range in men undergoing testosterone therapy.
- This poorly-conducted study may frighten many physicians from prescribing testosterone therapy to patients who could significantly benefit from its multifaceted effects.

Summary of 5 Recent Peer-reviewed Studies Noting Adverse Cardiovascular Effects Associated with Elevated Estrogen in Aging Men

1) After adjustment for age, hypertension, diabetes, adiposity, cholesterol, atrial fibrillation, and other characteristics were made in a group of 2,197 men aged 71 to 93 years of age, men with the highest blood levels of estradiol had a 2.2-fold greater risk of stroke, compared with those whose estradiol levels were lower.

{Reference: Abbott RD, Launer LJ, Rodriguez BL, et al. Serum estradiol and risk of stroke in elderly men. *Neurology*. 2007 Feb 20;68(8):563-8.}

2) In a study of 313 men whose average age was 58, carotid artery intima-media thickness was measured at baseline and then three years later. After adjusting for other confounding risk factors, higher levels of estradiol were associated with thickening of the carotid artery wall. Researchers concluded, "Circulating estradiol is a predictor of progression of carotid artery intima-media thickness in middle-aged men."

{Reference: Tivesten A, Hulthe J, Wallenfeldt K, Wikstrand J, Ohlsson C, Fagerberg B. Circulating estradiol is an independent predictor of progression of carotid artery intima-media thickness in middle-aged men. *J Clin Endocrinol Metab*. 2006 Nov;91(11):4433-7.}

3) In an angiographic trial of coronary atherosclerosis in a group of men with stable coronary artery disease, significant positive correlations between estradiol levels and other known atherosclerotic risk factors was observed. Researchers concluded, "Our results indicate a possible role of estradiol in promoting the development of atherogenic lipid milieu in men with coronary artery disease."

{Reference: Wranicz JK, Cygankiewicz I, Rosiak M, Kula P, Kula K, Zareba W. The relationship between sex hormones and lipid profile in men with coronary artery disease. *Int J Cardiol*. 2005 May 11;101(1):105-10.}

4) In another angiographic trial of coronary atherosclerosis in men aged 40-60 years, compared with healthy age-matched controls, men with coronary atherosclerosis had higher levels of estrone and a low level of testosterone in the presence of a high level of estradiol. Researchers concluded, "Low levels of total testosterone, testosterone/estradiol ratio and free androgen index and higher levels of estrone in men with coronary artery disease appear together with many features of metabolic syndrome and may be involved in the pathogenesis of coronary atherosclerosis."

{Reference: Dunajska K, Milewicz A, Szymczak J, et al. Evaluation of sex hormone levels and some metabolic factors in men with coronary atherosclerosis. *Aging Male*. 2004 Sep;7(3):197-204.}

5) In a study of men having suffered an acute myocardial infarction (heart attack), a prior heart attack, and patients with normal coronary arteries, the results showed significantly higher levels of estradiol in both groups of heart attack patients compared with those without coronary disease.

{Reference: Mohamad MJ, Mohammad MA, Karayem M, Hairi A, Hader AA. Serum levels of sex hormones in men with acute myocardial infarction. *Neuro Endocrinol Lett*. 2007 Apr;28(2):182-6.}

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ULTRA NATURAL PROSTATE FORMULA PROVIDES ULTRA PROTECTION

For a large percentage of men over the age of 50, having a healthy prostate is the key to living a normal life. Men with prostate issues may suffer *urinary or sexual problems*, in addition to *inflammation* and *discomfort*. Choosing to support a healthy prostate through supplementation is one of the smartest choices an aging man can make.

Ultra Natural Prostate Formula combines ten cutting edge *natural* ingredients that have been scientifically substantiated to protect the prostate gland and maintain its healthy function. One of the newest additions to the formula is **European pumpkin seed oil extract**, which is rich in **delta-7 sterols** and **fatty acids**.

The formula provides **saw palmetto extract** and **Graminex flower pollen extract™** to interfere with DHT activity and control inflammatory actions in the prostate. **Lycopene** is a carotenoid that has been added to the formula to help maintain healthy DNA gene function in prostate cells.

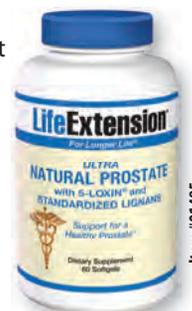
In order to boost its anti-estrogen capabilities, **Ultra Natural Prostate Formula** incorporates **HRMLignan™**, a nutrient derived from Norway spruce and flax seeds, and **nettle root extract**.

Since normal aging can lead to potentially unsafe levels of prostaglandins in the prostate, **Pygeum africanum** extract is included to help suppress prostaglandins, and thereby promote prostate comfort. **Beta-sitosterol** has been added because it is the most biologically active component of *pygeum* and enhances its protective effects.

Ultra Natural Prostate Formula also contains **5-LOXIN® boswellia extract** to protect against the dangerous enzyme *5-lipoxygenase*, and the mineral **boron** to help slow elevation of prostate-specific antigen (PSA).

>> The retail price for one of bottle **Ultra Natural Prostate Formula** is \$38. If a member buys four bottles, the price is reduced to **\$26.25** per bottle.

Contains soybeans.



Item #01495

The daily dose of two softgels of Ultra Natural Prostate Formula provides:

USPlus® Saw Palmetto (CO ₂ DeepExtract™)	320 mg
Graminex Flower Pollen Extract™	252 mg
5-LOXIN®	70 mg
Pumpkin seed oil (<i>Cucurbita pepo</i>) extract (standardized to 85% total fatty acids)	200 mg
Stinging nettle root extract (<i>Urtica dioica</i>)	240 mg
Pygeum extract	100 mg
Lycopene	10 mg
Phytosterol complex (standardized to 26.6% beta-sitosterol)	678 mg
HMRLignan™ Proprietary blend of Norway Spruce and ActiFlax™ Flax Lignan extracts	20.15 mg
Boron	3 mg

5-LOXIN® is a registered trademark of P.L. Thomas & Co., Inc. U.S. patents pending. ActiFlax™ is a trademark of Pharma Science Nutrients, Inc., all rights reserved. HMRLignan™ is a trademark used under sublicense from Linnea S.A. USPlus® and DeepExtract™ are trademarks of Valensa International and are used under license. US Patents 6,319,524 & 6,669,968. Not available for export.

To order Ultra Natural Prostate Formula, 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.

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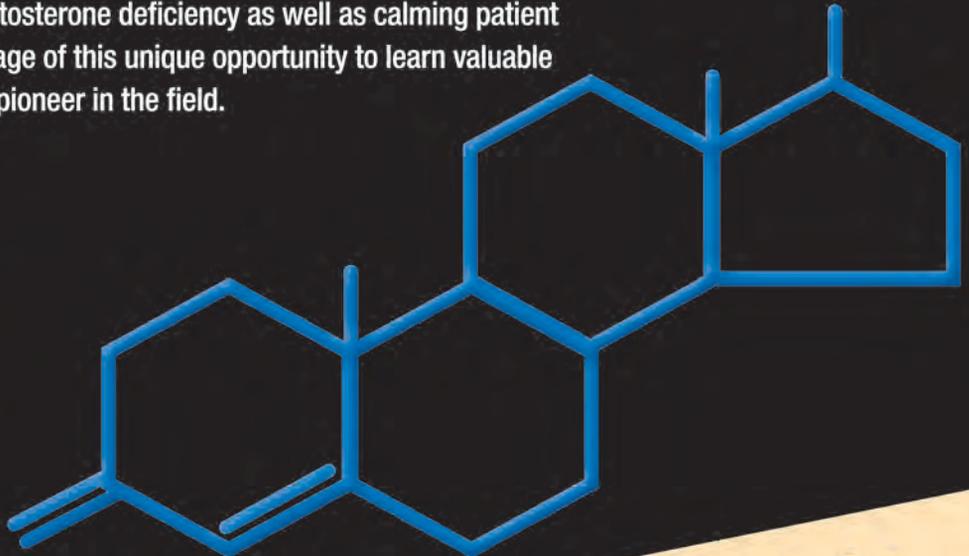
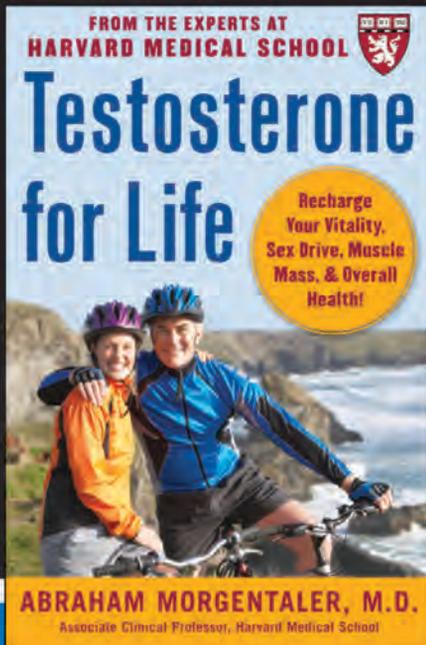
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WELLNESS PROFILE

BY JON FINKEL

Horse Power

Careening 30 miles per hour on a dirt track behind a 1,500-pound horse while sitting on a frail metal cart may not be your ideal work environment, but for Steve Foceri, a third-generation harness racer, it's a little slice of heaven.

"My grandfather got started in the business in the 60s," Foceri says. "I'd been around it for most of my childhood, but I honestly just didn't have the guts to start driving until I got into my twenties."

Foceri speaks plainly as he watches a few morning qualifying races at the Isle Casino Racetrack at Pompano Park, in Pompano Beach, Florida. Pompano Beach, commonly referred to by those in the sport as the "Winter Capital of Harness Racing," is home to some of the most competitive harness racing on the east coast.

Standing just off the track, Foceri takes each horse's measure as it trots past, noting its strengths and weaknesses. Some have an off-beat

gait, others fade quickly, and still others are just learning how to race. But Foceri isn't merely studying the horses; rather, he's watching the men behind them as well, trying to find strengths and weaknesses he could use during a race.



© GUIDO APICELLA

Steve Foceri

"When I realized I wanted to get into horse racing, everything became clear and I knew what I had to do. Fortunately, that coincided with the basic principles of getting back in shape."

WELLNESS PROFILE

© GUIDO APICELLA



“So much of this sport is balance and reaction time,” he says. “When you’re whipping around the track, with mud getting kicked up into your face and horses vying for position, you need to keep your body centered and make quick decisions. If you’re at all out of shape, mentally or physically, you won’t do as well. The most successful drivers are two things: athletically built and talented.”

As far as talent, you’re either born with it or you work really hard to get it. The truly successful harness racers, as is the case in most sports, are both talented and put in the hard work to improve. Foceri admits that he’s at the beginning of tapping into his talent, but he’s committed to putting in the time to get better.

GETTING ON TRACK

After kicking around several jobs following high school, Foceri found himself overweight and without direction when the tug of racing took hold of him.

“I was up to 230 pounds and I was eating a lot of fast food,” he says. “It was just unhealthy. I didn’t have any focus, so I just drifted for a while. When I realized I wanted to get into horse racing, everything became clear and I knew what I had to do. Fortunately, that coincided with the basic principles of getting back in shape.”

Foceri says that when he decided to get in shape, he took two weeks and wrote down everything that he ate. The first thing he realized when he examined his diet was that he was eating too many big meals that were calorie dense and fat dense, so he went from eating two or three full meals a day to five or six smaller meals a day. He also cut fast food out of his diet and replaced nearly all of his high fat snacks with fruits and vegetables. After only a few weeks and some tweaking, Foceri found himself following a sound, calorie restricted diet.

“I was reading a lot of workout magazines and I came across *Life Extension Magazine*®,” he says. “The information in it really

helped me prime my body for a long career.”

The weight quickly flew off and before Foceri knew it, he was down to an athletic 185 pounds. As is often the case, once he started looking better, he felt better, and his confidence soared. He began spending every day at the track, offering to do whatever job someone would give him in order to learn the business from the ground up. He was washing horses, cleaning stables, and exercising horses...and most important, he was happy. At this time, he decided to ‘get back on the horse,’ as they say, and start racing.

STAYING ON TRACK

“Now that I was in shape, I felt better in the harness,” he says. “One of the reasons you want to be strong and limber is for when you eventually get thrown from a horse. It’s going to happen, but if you’re able to avoid an accident because you’re strong enough to control the horse, or if you’re unfortunately in a crash, you have the ability to land on your feet and avoid serious injury.”

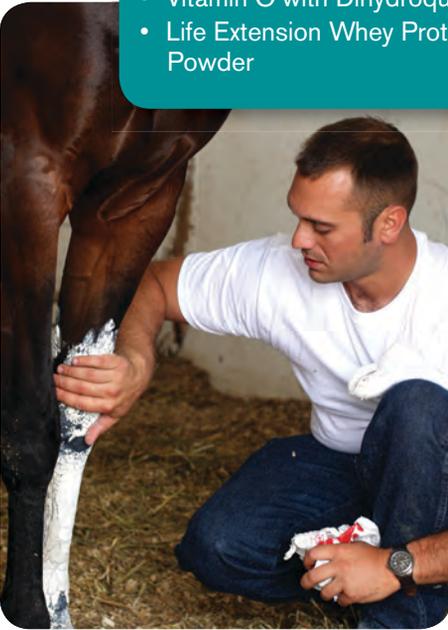
Foceri says that you can’t be successful if you’re constantly worrying about crashing. He says that during a race you have a million other things to focus on, like making sure your horse is responding to your movements and positioning yourself to capitalize on mistakes other drivers make.

“When you first start out, you don’t get the best horses to race,” Foceri says. “So you have to take mediocre horses and make them better than they are. In order to do this, you need to learn how to draft behind faster horses and use the turns to your advantage.”

STEVE'S SUPPLEMENTS

- Super Zeaxanthin with Lutein and Meso-zeaxanthin
- Glucosamine/Chondroitin Capsules
- Life Extension Two-Per-Day Multivitamin
- Gamma E Tocopherol with Sesame Lignans
- Vitamin C with Dihydroquercetin
- Life Extension Whey Protein Powder

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But the only way you can do this is to have complete control over your horse. You need to have excellent vision and excellent strength.

"I'm basically taking long shot horses and trying to win with them," Foceri says matter-of-factly. "That's the only way you can gain respect."

OWNING THE TRACK

Since Foceri doesn't have too much control over picking which horses he gets to race, he focuses on making sure he's in the best condition to race them. In order to keep his eyesight sharp, he takes Life Extension's Super Zeaxanthin with Lutein and Meso-zeaxanthin.

"I need to be able to pick up subtleties in the track and to be able to see exactly where my horse is positioned at all times," he says. "The eye supplements I take help protect my vision, especially on days when the weather doesn't cooperate. The races aren't very long, often lasting only two minutes, but your eyes are under a constant strain and taking something to support my vision was just something I thought was smart to do."

In addition to protecting his eyes, Foceri has to make sure his joints are loose and limber. The beating his body takes on a daily basis by training and racing horses is unbelievable. Just one ride puts incredible pressure on his hands, elbows, hips, knees and lower back, which could one day lead to joint inflammation or other joint problems. To combat these future symptoms, Foceri takes glucosamine and chondroitin supplements.

Then there's his workout:

Foceri does cardio two times a week and lifts weights three times a week. On his cardio days, he alternates between running,

swimming, and the machines in his gym. When he lifts weights, he sticks to different muscle groups for different days.

"I'll do chest, shoulders, and back on Monday, cardio on Tuesday, then biceps and triceps on Wednesday," he says. "Then I'll do cardio on Thursday and legs on Friday. I like to give my muscles a day off between lifting so they can recover."

In addition to the days' rest, Foceri helps his muscles recover by taking protein shakes and multivitamins.

"The protein powder is great because I can feed my muscles right after a workout without eating a meal," he says. "And the multi makes sure my whole body is getting what I need. I'll also supplement with extra vitamin C and E."

With his body in order and his supplements in order, Foceri has built a strong foundation to control his horses... and control his life. ●

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



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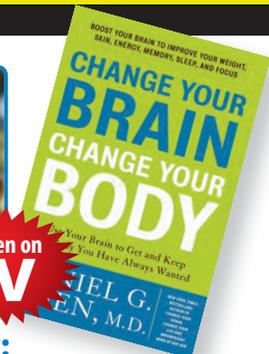


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- The Gut-Brain Connection
- Alternative Approaches for Cancer Patients
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If you attend my FITCAMP in Malibu on November 17-21, 2010 you will meet some of the world's top experts in the fields of longevity, fitness, nutrition, and mind/body practices. Normally, they are only accessible to large groups in expensive seminars. At FITCAMP, not only will you meet them personally, but you will also spend one-on-one quality time enjoying their company, picking their brains behind the scenes, and learning how to extend your life span.

For example, FITCAMP Malibu will feature presenter Michael Fossel, MD, PhD who wrote *Reversing Human Aging* back in 1997. Michael is considered a pioneer in the field of telomere biology and he is my co-author (along with David Woynarowski, MD) of a soon-to-be-published book called *The Immortality Edge*.* Those who attend FITCAMP Malibu will be able to meet Michael and ask the questions they have long wanted answers to. In addition, you will get a preview of the cutting-edge age-reversal program, based on telomere biology, that the book is based upon. You'll also receive a FREE, autographed copy of the book!

Another featured presenter at FITCAMP Malibu will be David Kekich, Founder of The Maximum Life Foundation and a longtime Life Extension friend. David will outline his 7 Step Life Extension Express program, providing recommendations for immediate steps that anyone can take to live five to twenty years longer and better NOW. He will also give an insider's overview of the conclusions drawn from last fall's extraordinary Manhattan Beach Project (www.manhattanbeachproject.com). That's where twelve of the world's leading researchers met to disclose the scientific roadmap they have been working on for over ten years to reverse (yes, reverse) aging in your lifetime. You'll receive a FREE, autographed copy of David's book as well.



Michael Fossel, MD, PhD



David Kekich

Phil Campbell, the Godfather of high-intensity interval training, and author of *Ready!Set!Go! Fitness*, will be on hand leading workouts and helping you create a program based on his decades of work with pro and Masters Athletes. Phil's program has been scientifically proven to naturally increase HGH levels, endurance, and strength and in the process add vital years to your life. As an LEF member you will receive a FREE autographed copy of Phil's book when you attend FITCAMP Malibu!

FITCAMP Malibu has something for EVERYONE!

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- Telomere Basics and Beyond with Michael Fossel, MD, PhD.
- Think and Grow Young with Dr. Kat Cotter.
- Clinical hypnotherapy sessions that encompass all of the current theories of aging.
- Look Great Naked At Any Age.
- Supplements That Work and Advanced Hormone Replacement Therapies, led by Dr. Kent Holtorf. *Dr. Holtorf is the founder of The Holtorf Medical Group and one of the leading experts in the field of endocrinology. He is the AOL Health endocrinology expert.*
- Life Extension Express with David Kekich.
- The Genius Diet - A nutritional GPS to living to a healthy 150 and beyond!
- Meditation Secrets for the Hyper-Active Mind.



Greta B's FITCAMP

Spend November 17th- 21st, 2010 at The Steven Breuer Conference Center in sunny Malibu, California. FITCAMP package prices start at \$1,595 (excluding airfare). For more information and to obtain the FITCAMP schedule, visit www.fitcamp.com.

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- Yoga for Stiffies: Can't touch your toes? No problem! Super flexible and craving a kick-butt flow series? FITCAMP yoga classes are geared to all levels.
- Pilates: Pioneering Pilates Super Star Mari Winsor will be on hand to showcase her at-home system for developing a sleek and toned body through the time-tested technique of Pilates bodywork.
- Hell Hikes, Power Walks, Butts-n-Guts, even a touch of Mixed Martial Arts... a variety of fun classes to choose from every day.
- Ropes Course: Challenge your fears, learn to work as part of a team, and set new goals.

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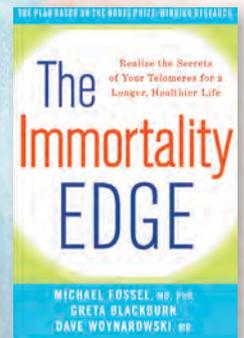
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You do not want to miss this. See you there!

Greta Blackburn

* *The Immortality Edge* will be available November 2010 from Amazon, Borders, and Barnes & Noble. (Wiley and Sons, ISBN: 978-0-470-87390-8)



For more information, call 1-800-727-2888 or visit www.fitcamp.com



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Life Extension Member Pricing

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Insulin
C-Reactive Protein (high sensitivity)
Free Testosterone Total Testosterone
Estradiol TSH
Free T3 Free T4
- FEMALE WEIGHT LOSS PANEL (LCWLF)* \$249 LIMITED TIME OFFER!**

CBC/Chemistry Profile DHEA-S
Progesterone Insulin
C-Reactive Protein (high sensitivity)
Free Testosterone Total Testosterone
Estradiol TSH
Free T3 Free T4
- MALE LIFE EXTENSION PANEL (LC322582) \$269**

CBC/Chemistry Profile
DHEA-S
PSA (prostate-specific antigen)
Homocysteine
C-Reactive Protein (high-sensitivity)
Free Testosterone
Total Testosterone
Estradiol
TSH for thyroid function
- MALE HORMONE ADD-ON PANEL (LCADDM)* \$155**

Pregnenolone and Dihydrotestosterone (DHT)
To provide an even more in-depth analysis of a man's hormone status, Life Extension has created this panel as an addition to the Male Life Extension Panel. This panel provides valuable information about a testosterone metabolite that can affect the prostate, and the mother hormone that acts as a precursor to all other hormones.
- FEMALE LIFE EXTENSION PANEL (LC322535) \$269**

CBC/Chemistry Profile
DHEA-S
Estradiol
Homocysteine
C-Reactive Protein (high-sensitivity)
Progesterone
Free Testosterone
Total Testosterone
TSH for thyroid function
- FEMALE HORMONE ADD-ON PANEL (LCADDF)* \$125**

Pregnenolone and Total Estrogens
To provide an even more in-depth analysis of a woman's hormone status, Life Extension has created this panel as an addition to the Female Life Extension Panel. This panel provides valuable information about total estrogen status, and the mother hormone that acts as a precursor to all other hormones.
- LIFE EXTENSION THYROID PANEL (LC304131) \$75**

TSH, T4, Free T3, Free T4.
- OMEGA SCORE™** (LCOMEGA) \$131.25**

Provides valuable information on your risk of developing heart disease, sudden heart attack, and cardiac death. The Omega Score™ also includes your AA:EPA ratio, allowing you to determine and track a major factor in total body inflammation.
- MALE HORMONE RE-TEST PROFILE (LCRTM)* \$275**

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

CBC/Chemistry Profile, DHEA-S, Total Estrogen, Pregnenolone, Total and Free Testosterone, Progesterone, and TSH. Continual monitoring of hormone levels is necessary for women seeking to maintain optimal blood level values.
- THE CBC/CHEMISTRY PROFILE (LC381822) \$35**

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Total Cholesterol Cholesterol/HDL Ratio
HDL Cholesterol Estimated CHD Risk
LDL Cholesterol Glucose
Triglycerides Iron

LIVER FUNCTION PANEL
AST (SGOT) Total Bilirubin
ALT (SGPT) Alkaline Phosphatase
LDH

KIDNEY FUNCTION PANEL
BUN BUN/Creatinine Ratio
Creatinine Uric Acid

BLOOD PROTEIN LEVELS
Total Protein Globulin
Albumin Albumin/Globulin Ratio

BLOOD COUNT/RED AND WHITE BLOOD CELL PROFILE
Red Blood Cell Count Monocytes
White Blood Cell Count Lymphocytes
Eosinophils Platelet Count
Basophils Hemoglobin
Polys (Absolute) Hematocrit
Lymphs (Absolute) MCV
Monocytes (Absolute) MCH
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BLOOD MINERAL PANEL
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Potassium Chloride
Phosphorus Iron

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

○ HEMOGLOBIN A1C (HBA1C) (LC001453) \$31

Hemoglobin A1C evaluates long-term blood sugar control. Serum glucose sometimes reacts with important proteins in the body rendering them nonfunctional. Since this process, known as glycation is one of the leading theories of aging, Life Extension[®] believes everyone should check their A1C level.
- VITAMIN D (250H) (LC081950) \$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.
- FOOD SAFE ALLERGY TEST (LCM73001) \$174**

This test measures delayed (IgG) food allergies for 95 common foods.
- CYTOKINE PANEL (LCCYT)* \$399 NEW LOW PRICE**

Includes TNF-alpha, IL-6, IL-1 beta and IL-8. Cytokines are proteins that modulate the inflammatory response. This panel is used to identify elevated levels of specific cytokines.

* 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.



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Life Extension Member Pricing

- | | | | |
|--|----------------|--|---|
| <input type="radio"/> HORMONES
CORTISOL (LC004051)
This test is to measure adrenal function. | \$39 | <input type="radio"/> CARDIAC RISK
Lp-PLA2 (PLAC TEST)* (LC141275)
This test is used to aid in predicting risk for coronary heart disease, and ischemic stroke associated with atherosclerosis. Lp-PLA2 is a cardiovascular risk factor that provides unique information about the stability of the plaque inside your arteries. | \$125 |
| <input type="radio"/> ADRENOCORTICOTROPIC HORMONE (ACTH)* (LC004440)
A pituitary function test useful in evaluating adrenocortical dysfunction. | \$91.50 | <input type="radio"/> C-REACTIVE PROTEIN (HIGH-SENSITIVITY) (LC120766)
Measures inflammation factors in arteries. Recent studies indicate that C-reactive protein may be the most accurate risk factor for predicting heart attack and stroke. | \$42 |
| <input type="radio"/> DHEA-SULFATE (LC004697)
This test shows if you are taking the proper amount of DHEA. This test normally costs \$100 or more at commercial laboratories. | \$61 | <input type="radio"/> APOLIPOPROTEIN ASSESSMENT (APO A1 + APO B + RATIO) (LC216010)
This ratio correlates with risk of coronary artery disease and is useful in the presence of borderline elevations of cholesterol. | \$55 |
| <input type="radio"/> DIHYDROTESTOSTERONE (DHT)* (LC500142)
Measures serum concentrations of DHT. | \$99 | <input type="radio"/> FIBRINOGEN* (LC001610)
High levels of this blood-clotting factor increase the risk of heart attack and stroke. | \$31 |
| <input type="radio"/> ESTRADIOL (LC004515)
For men and women. Determines the proper amount in the body. | \$33 | <input type="radio"/> HOMOCYSTEINE (LC706994)
Can indicate if you are likely to have a heart attack or stroke. Even if you take folic acid, you still may have dangerously high levels of this artery-clotting metabolic debris that can be lowered with high doses of TMG and vitamin B6. | \$64 |
| <input type="radio"/> INSULIN-LIKE GROWTH FACTOR BINDING PROTEIN 3 (IGFBP3) (LC140152)
Elevated levels in hypertensive individuals have been associated with a nine-fold increase of carotid arteriosclerosis. | \$47 | <input type="radio"/> VAP™ TEST (LC804500)
The VAP cholesterol test provides a more comprehensive coronary heart disease (CHD) risk assessment than the conventional lipid profile. Direct measurements, not estimations, are provided for total cholesterol, LDL, HDL, VLDL, and cholesterol subclasses. | \$90 |
| <input type="radio"/> INSULIN FASTING* (LC004333)
Can predict those at risk of diabetes, obesity, and heart and other diseases. | \$42 | <input type="radio"/> COQ10* (COENZYME Q10) (LC120251)
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. | \$99
<small>NEW LOW PRICE</small> |
| <input type="radio"/> PREGNENOLONE* (LC140707)
Used to determine ovarian failure, hirsutism, adrenal carcinoma, and Cushing's syndrome. | \$116 | <input type="radio"/> MALE HEALTH
PSA (PROSTATE-SPECIFIC ANTIGEN) (LC010322)
Can provide an early warning sign for prostate disorders and possible cancer. | \$31 |
| <input type="radio"/> PROGESTERONE (LC004317)
Primarily for women. Determines the proper amount in the body. | \$55 | <input type="radio"/> FREE-PSA (INCLUDES TOTAL PSA)* (LC480780)
Recommended to determine if an elevated PSA is indicative of prostate cancer. | \$61 |
| <input type="radio"/> SEX HORMONE BINDING GLOBULIN (SHBG) (LC082016)
This test is used to monitor SHBG levels which are under the positive control of estrogens and thyroid hormones, and suppressed by androgens. | \$33 | <input type="radio"/> BONE HEALTH
OSTEOCALCIN* (LC010249)
Osteocalcin is often used as a biochemical marker, or biomarker, for the bone formation process. It has been routinely observed that higher serum osteocalcin levels are relatively well correlated with bone diseases characterized by increased bone turnover, especially osteoporosis. | \$91 |
| <input type="radio"/> SOMATOMEDIN C (IGF-1) (LC010363)
Indicates growth hormone secretion levels. Low levels have been associated with atherosclerosis as well as all-cause mortality. | \$75 | <input type="radio"/> DPD CROSS LINK URINE TEST (LC511105)
The deoxypyridinoline (DPD) urine test can be used to measure bone re-absorption rates in healthy individuals and in those with enhanced risk of developing metabolic bone diseases. Deoxypyridinoline can be used to monitor therapies (which may include bisphosphonate drugs) in people diagnosed with osteoporosis. | \$79 |
| <input type="radio"/> TOTAL AND FREE TESTOSTERONE (LC140103)
Determines whether testosterone replacement should be considered as a therapy for depression, abdominal obesity, low energy, poor mental performance, or loss of libido. | \$99 | | |
| <input type="radio"/> URINARY 2/16 ESTROGEN METABOLITE RATIO (LCU73000)
This ratio is relevant as a risk factor for estrogen-sensitive diseases including breast and cervical cancers, osteoporosis, and recurrent respiratory papillomatosis. | \$128 | | |

**For non-member prices
call 1-800-208-3444**

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

ORDER LIFE SAVING BLOOD TESTS FROM VIRTUALLY ANYWHERE IN THE US!

TERMS AND CONDITIONS

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

Signature of Life Extension Member

X

Life Extension Foundation Members only

MEMBER NO.

Male Female

Name

Date of Birth
(required) / /

Address

City

State

Zip

Phone

Credit Card No.

Expiration Date /

Mail your order form to:

LifeExtension
NATIONAL DIAGNOSTICS, INC.

1100 West Commercial Blvd.,
Ft. Lauderdale, FL 33309

Phone your order to: 1-800-208-3444

Fax your order to: 1-866-728-1050

Products

AMINO ACIDS

Acetyl-L-Carnitine
Acetyl-L-Carnitine-Arginate
Branched Chain Amino Acids
D, L-Phenylalanine Capsules
GABA Powder
Glycine Capsules
Glycine Powder
Arginine Capsules
L-Arginine Free Base Powder
Arginine/L-Ornithine Capsules
L-Carnitine Capsules
L-Cysteine Capsules
L-Glutathione, L-Cysteine & C
L-Glutamine Capsules
L-Glutamine Powder
L-Lysine Capsules
L-Lysine Powder
L-Tyrosine Tablets
Mega L-Glutathione Capsules
N-Acetyl Cysteine Capsules
Optimized Carnitine with GlycoCarn®
PharmaGABA
Super Carnosine Capsules
Taurine Capsules
Tryptopure® Tryptophan
(Optimized) Tryptopure® Plus

BONE & JOINT HEALTH

ArthroMax™ with Theaflavins
Bone-Up™
Bone Restore™
Bone Strength Formula w/KoAct™
Chondroitin Sulfate
Chondrox
Fast Acting Joint Formula
Glucosamine Chondroitin Capsules

BRAIN HEALTH

Acetyl-L-Carnitine
Acetyl-L-Carnitine-Arginate
CDP Choline Capsules
Cognitex with NeuroProtection Complex
Cognitex with Pregnenolone &
NeuroProtection Complex
DMAE
DMAE-Ginkgo
Ginkgo Biloba Certified Extract™
Huperzine A
Lecithin with B5 and BHA
Lecithin Granules
Methylcobalamin Lozenges
Optimized Ashwagandha Extract
Phosphatidylserine Capsules
Rhodiola Extract
Super Ginkgo Extract
Vinpocetine

DIGESTIVE

Agave Digestive-Immune Support
Bromelain Powder
Carnosoothe w/PicroProtect
Digest RC™
Enhanced Super Digestive Enzymes
(also available with Probiotics)
Florastor
Intact Digest
Life Flora™
Natural EsophaGuard
N-Zimes™
Pancreatin
Primal Defense
Regimint™
Saccharomyces Boulardii+mos

DURK AND SANDY PRODUCTS

Blast™
Dual-C
Inner Power™
Memory Upgrade

EYE CARE

Bilberry Extract
Blackcurrant Freeze Dried Extract
Brite Eyes III

Overcast Polarized Sunglasses
Solarshield Sunglasses
Super Zeaxanthin with Lutein &
Meso-Zeaxanthin
(Plus Astaxanthin also available)
Vision Optimizer

FIBER

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

HAIR CARE

Dr. Proctor's Advanced Hair Formula
Dr. Proctor's Shampoo
Life Extension Shampoo and Conditioner
Super-Absorbable Tocotrienols

HEART HEALTH

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

HERBAL/PHYTO PRODUCTS

Artichoke Leaf Extract
Astaxanthin
Berry Complete
Blackcurrant Juice Concentrate
Blueberry Extract
Blueberry Extract w/Pomegranate
Butterbur Extract w/Standardized
Rosmarinic Acid
Calcium D-Glucarate
Cilantro Herbal Extract
Citrus Bioflavonoid
Enhanced Berry Complete with RZD™ Acai
Grapeseed Extract with Resveratrol &
Pterostilbene
Huperzine A with Natural Vitamin E
Kyolic® Garlic Formula 105
Kyolic® Reserve
Lycopene
Mega Green Tea Extract
Mega Green Tea Extract (Decaffeinated)
Mega Lycopene
Mega Silymarin with Isosilybin B
Nutrim
Optimized Ashwagandha Extract
Pomegranate Extract
(Full-Spectrum) Pomegranate™
Pomegranate Juice Concentrate
ProGreens®
Pure-Gar™
Pycnogenol
Optimized Quercetin
Resveratrol with Synergistic Grape-Berry Actives
Rhodiola Extract
Rosmarinic Acid Extract
Silymarin
SODzyme™ with GliSODin®

Stevia Extract
Super Bio-Curcumin®
Super Curcumin with Bioperine®
Super Ginkgo Extract
Triple Action Cruciferous Vegetable Extract
Venotone
Whole Grape Extract

HORMONES

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

IMMUNE ENHANCEMENT

Agave Digestive-Immune Support
AHCC® (Active Hexose Correlated Compound)
Buffered Vitamin C Powder
Echinacea
Enhanced Life Extension Whey Protein
i26 Hyperimmune Egg
Immune Protect with PARACTIN®
Lactoferrin
Maitake SX-Fraction
Norwegian Shark Liver Oil
Primal Defense™
ProBoost™ Thymic Protein A
Pure Gar™
Sambu® Guard
Theralac Capsules
Thymic Immune Factors
Ultimate Flora Advanced Immunity
Vitamin C with Dihydroquercetin
Zinc Lozenges with Vitamin C

INFLAMMATORY REACTIONS

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

LIVER HEALTH

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

MINERALS

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

Copper
 Iodoral
 Iron Protein Plus
 Magnesium
 Magnesium Citrate
 Mineral Formula for Men
 Mineral Formula for Women
 Only Trace Minerals
 OptiZinc
 Sea-Iodine™
 Selenium
 Se-Methylselenocysteine
 Vanadyl Sulfate
 Zinc/Vitamin C Lozenges

MISCELLANEOUS

Blood Pressure Monitor Arm Cuff Medium
 Cell Sensor Gauss Meter™
 (Nutribase) CRWay Edition
 Advanced Dietary Software
 Empty Gelatin Capsules
 The Capsule Filler Machine
 The Pill Cutter and Grinder

MITOCHONDRIAL SUPPORT

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

MOOD RELIEF

L-Theanine
 5 HTP
 Natural Stress Relief
 Optimized Tryptopure™ Plus
 Stabilium® 200
 SAME
 St. John's Wort Extract
 Tryptopure™ L-Tryptophan

MOUTH CARE

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

MULTIVITAMIN

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

PET CARE

Life Extension Cat Mix
 Life Extension Dog Mix

PROSTATE & URINARY HEALTH

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

SKIN CARE

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

SOY

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

SPECIAL PURPOSE FORMULA

Anti-Alcohol Antioxidants w/HepatoProtection Complex
 Benfotiamine w/Thiamine
 Breast Health Formula
 Butterbur Extract w/Standardized Rosmarinic Acid
 Chlorella
 Chlorophyllin w/Zinc
 Coriolus Versicolor Super Strength
 CR Mimetic Longevity Formula
 Derma-Vits™
 Enhanced Cinsulin® w/Glucose Management Proprietary Blend
 EDTA
 (European Leg Solution) Diosmin95
 Fem Dophilus
 Femmenessence MacaPause®
 GlucoFit™
 Ideal Bowel Support 299V
 Lustre™
 Maitake SX-Fraction™
 Menopause Solutions
 Migra-eeze™
 Natural Female Support

Organic Total Body Cleanse
 Pecta-Sol®
 Potassium Iodide
 Prelox® Natural Sex for Men®
 Pyridoxamine
 Rosmarinic Acid Extract

SPORTS PERFORMANCE

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

VITAMINS

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

WEIGHT MANAGEMENT

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

Buyers Club Order Form

To order call: 1.954.766.8433 or 1.800.544.4440

No.		Retail	Member Price	Qty	Total
A					
00449	ACETYL-L-CARNITINE - 500 mg, 100 caps	\$56.00	\$42.00		
	ACETYL-L-CARNITINE - 4 bottles of 100 caps	186.64	139.98		
00788	ACETYL-L-CARNITINE ARGINATE - 100 caps	59.00	44.25		
	ACETYL-L-CARNITINE ARGINATE - 4 bottles of 100 caps	203.96	152.97		
01308	ADVANCED LIPID CONTROL - 60 veg. caps	30.00	22.50		
	ADVANCED LIPID CONTROL - 4 bottles of 60 veg. caps	108.00	81.00		
01300	ADVANCED ORAL HYGIENE - 60 veg. mint lozenges	20.00	15.00		
	ADVANCED ORAL HYGIENE - 4 bottles of 60 veg. mint lozenges	72.00	54.00		
01417	AGAVE DIGESTIVE-IMMUNE SUPPORT - 360 grams of powder	30.00	22.50		
	AGAVE DIGESTIVE-IMMUNE SUPPORT - 4 bottles of powder	108.00	81.00		
00681	AHCC - 500 mg, 30 caps	48.98	36.74		
	AHCC - 4 bottles of 30 caps	174.20	130.65		
46925	ALLI® REFILL PACK - 60 mg, 120 caps	69.95	58.00		
00457	(SUPER) ALPHA-LIPOIC ACID w/BIOTIN - 250 mg, 60 caps	37.00	27.75		
	(SUPER) ALPHA-LIPOIC ACID w/BIOTIN - 4 bottles of 60 caps	128.00	96.00		
01440	ANTI-ALCOHOL ANTIOXIDANTS w/HEPATOPRO - 100 caps	26.00	19.50		
	ANTI-ALCOHOL ANTIOXIDANTS w/HEPATOPRO - 4 bottles of 100 caps	92.00	69.00		
00105	APPLE PECTIN POWDER - 227 grams of powder	14.75	11.06		
	APPLE PECTIN POWDER - 4 bottles of powder	55.00	41.25		
01012	ARGININE CAPS - 800 mg, 200 caps	26.50	19.88		
	ARGININE CAPS - 4 bottles of 200 caps	93.00	69.75		
01039	ARGININE/ORNITHINE CAPS - 500/250 mg, 100 caps	16.00	12.00		
	ARGININE/ORNITHINE CAPS - 4 bottles of 100 caps	58.00	43.50		
00038	ARGININE/ORNITHINE POWDER - 150 grams of powder	22.95	17.21		
	ARGININE/ORNITHINE POWDER - 4 bottles of powder	76.00	57.00		
01025	(L)-ARGININE FREE-FORM POWDER - 100 grams of powder	15.98	11.99		
	(L)-ARGININE FREE-FORM POWDER - 4 bottles of powder	57.24	42.93		
01303	ARTHRONAX™ w/THEAFLAVINS - 120 veg. caps	44.00	33.00		
	ARTHRONAX™ w/THEAFLAVINS - 4 bottles of 120 veg. caps	160.00	120.00		
01404	ARTHRO-IMMUNE JOINT SUPPORT - 60 veg. caps	30.00	22.50		
	ARTHRO-IMMUNE JOINT SUPPORT - 4 bottles of 60 veg. caps	108.00	81.00		
00919	ARTICHOKE LEAF EXTRACT - 500 mg, 180 veg. caps	28.00	21.00		
	ARTICHOKE LEAF EXTRACT - 4 bottles of 180 veg. caps	101.52	76.14		
00086	(SUPER) ASCORBATE C POWDER - 8 oz of powder	26.99	20.24		
	(SUPER) ASCORBATE C POWDER - 4 bottles of powder	99.48	74.61		
00080	ASCORBIC ACID POWDER - 16 oz of powder vitamin C	38.00	28.50		
	ASCORBIC ACID POWDER - 4 bottles of powder vitamin C	139.72	104.79		
00082	ASCORBYL PALMITATE CAPSULES - 500 mg, 100 caps	22.50	16.88		
	ASCORBYL PALMITATE CAPSULES - 4 bottles of 100 caps	80.00	60.00		
00888	(OPTIMIZED) ASHWAGANDHA EXTRACT - 60 veg. caps	10.00	7.50		
	(OPTIMIZED) ASHWAGANDHA EXTRACT - 4 bottles of 60 veg. caps	36.00	27.00		
01066	(LOW DOSE) ASPIRIN ENTERIC COATED - 81 mg, 300 tablets	6.00	4.50		
	(LOW DOSE) ASPIRIN ENTERIC COATED - 4 bottles of 300 tablets	21.32	16.00		
00708	ASTAXANTHIN - 2 mg, 30 softgels	10.25	7.69		

* These products are not 25% off retail price.

SUB-TOTAL OF COLUMN 1

NOVEMBER 2010

No.		Retail	Member Price	Qty	Total
B					
01040	BELLY SLIM & TONE - 6 fl oz	\$42.00	\$31.50		
	BELLY SLIM & TONE - 4 bottles of 6 fl oz	152.00	114.00		
00920	BENFOTIAMINE w/ THIAMINE - 100 mg, 120 caps	19.95	14.96		
	BENFOTIAMINE w/ THIAMINE - 4 bottles of 120 caps	74.40	55.80		
00925	(MEGA) BENFOTIAMINE - 250 mg, 120 veg. caps	30.00	22.50		
	(MEGA) BENFOTIAMINE - 4 bottles of 120 veg. caps	108.00	81.00		
01206	BERRY COMPLETE - 30 veg. caps	21.00	15.75		
	BERRY COMPLETE - 4 bottles of veg. caps	74.68	56.00		
01406	(ENHANCED) BERRY COMPLETE w/RZD™ ACAI - 60 veg. caps	29.00	21.75		
	(ENHANCED) BERRY COMPLETE w/RZD™ ACAI - 4 bottles of veg. caps	104.00	78.00		
00664	BETA-CAROTENE - 25,000 IU, 100 softgels	10.98	8.24		
	BETA-CAROTENE - 4 bottles of 100 softgels	39.32	29.49		
00653	BETTERWOMAN -40 caps	40.00	30.00		
	BETTERWOMAN - 4 bottles of 40 caps	152.00	114.00		
01073	BILBERRY EXTRACT - 100 mg, 100 veg. caps	28.00	21.00		
	BILBERRY EXTRACT - 4 bottles of 100 veg. caps	100.00	75.00		
*01006	BIOSIL™ - 5 mg, 30 veg. caps	18.95	15.16		
*01007	BIOSIL™ - 30 fl ml	29.99	23.99		
00102	BIOTIN CAPSULES - 600 mcg, 100 caps	7.50	5.63		
	BIOTIN CAPSULES - 4 bottles of 100 caps	26.00	19.50		
00145	BIOTIN POWDER - 30 grams of powder	12.50	9.38		
	BIOTIN POWDER - 4 bottles of powder	44.00	33.00		
01037	BLACKCURRANT FREEZE DRIED EXTRACT - 60 veg. caps	21.95	16.46		
01034	BLACKCURRANT JUICE CONCENTRATE - 12 fl. oz	17.95	13.46		
01008	BLAST™ - 600 grams of powder	26.95	20.21		
70000	BLOOD PRESSURE MONITOR-ARM CUFF (medium)	99.95	64.97		
70001	BLOOD PRESSURE MONITOR-WRIST (travel size)	69.95	45.47		
01214	BLUEBERRY EXTRACT - 60 veg. caps	22.50	16.88		
	BLUEBERRY EXTRACT - 4 bottles of 60 veg. caps	80.00	60.00		
01438	BLUEBERRY EXTRACT w/ POMEGRANATE - 60 veg. caps	30.00	22.50		
	BLUEBERRY EXTRACT w/ POMEGRANATE - 4 bottles of 60 veg. caps	108.00	81.00		
00811	BONE RESTORE - 150 caps	22.50	16.88		
	BONE RESTORE - 4 bottles of 150 caps	78.00	58.50		
01211	BONE STRENGTH FORMULA w/KOACT™ - 120 caps	42.00	31.50		
	BONE STRENGTH FORMULA w/KOACT™ - 4 bottles of 120 caps	152.00	114.00		
00313	BONE-UP® - 240 caps (hydroxyapatite complex)	24.95	18.71		
	BONE-UP® - 4 bottles of 240 caps	90.00	67.50		
01379	BOOSTER - 60 softgels	48.00	36.00		
	BOOSTER - 4 bottles of 60 softgels	176.00	132.00		
01380	(SUPER) BOOSTER w/ADVANCED K2 COMPLEX - 60 softgels	42.00	31.50		
	(SUPER) BOOSTER w/ADVANCED K2 COMPLEX - 4 bottles of 60 softgels	152.00	114.00		
00621	BORON CAPS - 3 mg, 100 caps	5.95	4.46		
	BORON CAPS - 4 bottles of 100 caps	21.00	15.75		
00202	BOSWELLA - 100 caps	38.00	28.50		
	BOSWELLA - 4 bottles of 100 caps	120.00	90.00		
00258	BOSWELLA TOPICAL CREAM - 4 oz jar	15.00	11.25		
	BOSWELLA TOPICAL CREAM - 4 jars	52.00	39.00		
00253	BRANCHED CHAIN AMINO ACIDS - 90 caps	19.50	14.63		
	BRANCHED CHAIN AMINO ACIDS - 4 bottles of 90 caps	68.00	51.00		
00999	BREAST HEALTH FORMULA - 60 veg. caps	34.00	25.50		
	BREAST HEALTH FORMULA - 4 bottles of 60 veg. caps	120.00	90.00		
00893	BRITE EYES III - 2 vials, 5 ml each	34.00	25.50		
	BRITE EYES III - 4 boxes	128.00	96.00		

SUB-TOTAL OF COLUMN 2

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

No.		Retail	Member Price	Qty	Total
00136	BROMELAIN POWDER - 100 grams of powder	\$21.00	\$15.75		
	BROMELAIN POWDER - 4 bottles of powder	75.00	56.25		
01203	(SPECIALLY COATED) BROMELAIN - 500 mg, 60 enteric coated tablets	21.00	15.75		
	(SPECIALLY COATED) BROMELAIN - 4 bottles of 60 tablets	76.00	57.00		
00884	BUTTERBUR EXT. W/ STANDARDIZED ROSMARINIC ACID - 60 softgels	44.00	33.00		
	BUTTERBUR EXT. W/ STANDARDIZED ROSMARINIC ACID - 4 bottles of 60 softgels	158.40	118.80		
C					
01015	CALCIUM CITRATE - 300 caps	\$24.00	\$18.00		
	CALCIUM CITRATE - 4 bottles of 300 caps	85.00	63.75		
00535	CALCIUM D-GLUCARATE - 200 mg, 60 caps	18.00	13.50		
	CALCIUM D-GLUCARATE - 4 bottles of 60 caps	60.00	45.00		
01493	CALORIE CONTROL WEIGHT MANAGEMENT FORMULA BLUEBERRY-POMEGRANATE FLAVOR - 402 grams powder	56.00	42.00		
	CALORIE CONTROL WEIGHT MANAGEMENT FORMULA BLUEBERRY-POMEGRANATE FLAVOR - 4 bottles of 402 grams powder	192.00	144.00		
	CALORIE CONTROL WEIGHT MANAGEMENT FORMULA BLUEBERRY-POMEGRANATE FLAVOR - 8 bottles of 402 grams powder	352.00	264.00		
00118	CAPSULE FILLER MACHINE FOR "00" CAPSULES	12.00	9.00		
	CAPSULE FILLER MACHINE FOR "00" CAPSULES - 4 machines	45.00	33.75		
00613	CAPSULE FILLER MACHINE FOR "0" CAPSULES	12.00	9.00		
	CAPSULE FILLER MACHINE FOR "0" CAPSULES - 4 machines	45.00	33.75		
00916	(OPTIMIZED) CARNITINE w/GLYCOCARN® - 60 veg. caps	29.00	21.75		
	(OPTIMIZED) CARNITINE w/GLYCOCARN® - 4 bottles of 60 veg. caps	104.40	78.30		
01041	L-CARNITINE CAPSULES - 500 mg, 30 caps	15.00	11.25		
	L-CARNITINE CAPSULES - 4 bottles of 30 caps	52.80	39.60		
01258	CARNOSOOTHE w/PICROPROTECT™ - 60 veg. caps	29.95	22.46		
	CARNOSOOTHE w/PICROPROTECT™ - 4 bottles of 60 veg. caps	108.00	81.00		
01287	(SUPER) CARNOSINE CAPS - 500 mg, 90 caps	66.00	49.50		
	(SUPER) CARNOSINE CAPS - 4 bottles of 90 caps	240.00	180.00		
01011	CELLULITE SUPPRESS™ FORMULA - 6 fl. oz	58.00	43.50		
	CELLULITE SUPPRESS™ FORMULA - 4-6oz bottles	208.00	156.00		
00390	CDP CHOLINE CAPS - 250 mg, 60 caps	36.00	27.00		
	CDP CHOLINE CAPS - 4 bottles of 60 caps	136.00	102.00		
00998	CELL SENSOR-EMF DETECTION/MEASUREMENT METER	39.95	29.95		
01370	CHILDREN'S FORMULA MIX - 100 chewable tablets	18.00	13.50		
	CHILDREN'S FORMULA MIX - 4 bottles of 100 chewable tablets	64.00	48.00		
00550	CHLORELLA - 500 mg, 200 tablets	23.50	17.63		
	CHLORELLA - 4 bottles of 200 tablets	84.00	63.00		
01048	CHLOROPHYLLIN w/ZINC - 100 mg, 100 caps	24.00	18.00		
	CHLOROPHYLLIN w/ZINC - 4 bottles of 100 caps	80.00	60.00		
*01359	CHO-LESS - 90 capsules	32.50	24.38		
00541	CHOLINE CHLORIDE - 16 oz liquid	14.95	11.21		
	CHOLINE CHLORIDE - 4 bottles of 16 oz liquid	56.00	42.00		
00364	CHONDROITIN SULFATE CONCENTRATE - 400 mg, 60 tablets	19.95	14.96		
	CHONDROITIN SULFATE CONCENTRATE - 4 bottles of 60 tablets	72.00	54.00		
00169	CHROMIUM - 200 mcg polynicotinate, 365 caps	28.00	21.00		
	CHROMIUM - 4 bottles of 365 caps	104.00	78.00		
01071	CHROMIUM ULTRA - 100 veg. caps	24.00	18.00		
	CHROMIUM ULTRA - 4 bottles of 100 veg. caps	84.00	63.00		
00551	CILANTRO HERBAL EXTRACT - 1 oz	12.00	9.00		
	CILANTRO HERBAL EXTRACT - 4 bottles of 1oz	44.00	33.00		
01267	(ENHANCED) CINSULIN® w/GLUCOSE MGMT PROP BLEND - 90 veg. caps	32.00	24.00		
	(ENHANCED) CINSULIN® w/GLUCOSE MGMT PROP BLEND - 4 bottles of 90 veg. caps	120.00	90.00		

* Not for sale to wholesalers or retail stores.

SUB-TOTAL OF COLUMN 3

No.		Retail	Member Price	Qty	Total
00069	CITRUS BIOFLAVONOID - 100 caps	\$15.99	\$11.99		
	CITRUS BIOFLAVONOID - 4 bottles of 100 caps	59.28	44.46		
00818	(SUPER) CLA BLEND w/SESAME LIGNANS - 1000 mg, 120 softgels	36.00	27.00		
	(SUPER) CLA BLEND w/SESAME LIGNANS - 4 bottles of 120 softgels	132.00	99.00		
	(SUPER) CLA BLEND w/SESAME LIGNANS - 10 bottles, 120 softgels	263.30	197.48		
00819	(SUPER) CLA BLEND w/GUARANA & SESAME -120 softgels	42.00	31.50		
	(SUPER) CLA BLEND w/GUARANA & SESAME - 4 btlts of 120 softgels	153.32	114.99		
00050	COD LIVER OIL - 12 fl oz (355 ml) (Emulsified)	14.58	10.94		
	COD LIVER OIL - 4 bottles of 12 fl oz (355 ml)	49.08	36.81		
00293	COD LIVER OIL - 100 softgels (Emulsified)	9.95	7.46		
	COD LIVER OIL - 4 bottles of 100 softgels	37.52	28.14		
00922	COGNITEX w/PREGNENOLONE & NEUROPROTECTION COMPLEX - 90 softgels	74.00	55.50		
	COGNITEX w/PREGNENOLONE & NEUROPROTECTION COMPLEX - 4 btlts of 90 softgels	266.40	199.80		
	COGNITEX w/PREGNENOLONE & NEUROPROTECTION COMPLEX - 12 btlts of 90 softgels	768.00	576.00		
00921	COGNITEX w/o PREGNENOLONE w/NEUROPROTECTION COMPLEX - 90 softgels	72.00	54.00		
	COGNITEX w/o PREGNENOLONE w/NEUROPROTECTION COMPLEX - 4 bottles of 90 softgels	256.00	192.00		
	COGNITEX w/o PREGNENOLONE w/NEUROPROTECTION COMPLEX - 12 bottles of 90 softgels	744.00	558.00		
00110	COMPLETE B-COMPLEX - 180 caps	21.50	16.13		
	COMPLETE B-COMPLEX - 4 bottles of 180 caps	72.00	54.00		
01374	COMPREHENSIVE NUTRIENT PACK - 30-day supply	189.00	141.75		
	COMPREHENSIVE NUTRIENT PACK - 120-day supply	684.00	513.00		
00119	COPPER CAPSULES - 2 mg, 100 caps	8.95	6.71		
	COPPER CAPSULES - 4 bottles of 100 caps	32.36	24.27		
00949	(SUPER ABSORBABLE) COQ10™ w/ d-LIMONENE - 50 mg, 60 softgels	25.00	18.75		
	(SUPER ABSORBABLE) COQ10™ w/ d-LIMONENE - 4 bottles of 60 softgels	88.00	66.00		
	(SUPER ABSORBABLE) COQ10™ w/ d-LIMONENE - 10 bottles of 60 softgels	200.00	150.00		
00950	(SUPER ABSORBABLE) COQ10™ w/ d-LIMONENE - 100 mg, 100 softgels	66.00	49.50		
	(SUPER ABSORBABLE) COQ10™ w/ d-LIMONENE - 4 bottles of 100 softgels	240.00	180.00		
	(SUPER ABSORBABLE) COQ10™ w/ d-LIMONENE - 10 bottles of 100 softgels	560.00	420.00		
01226	(SUPER UBIQUINOL) COQ10 - 100 mg, 60 softgels	56.00	42.00		
	(SUPER UBIQUINOL) COQ10 - 4 bot of 60 softgels	208.00	156.00		
	(SUPER UBIQUINOL) COQ10 - 10 bot of 60 softgels	480.00	360.00		
01426	(SUPER UBIQUINOL) COQ10 w/ENH MITOCHONDRIAL SUPPORT™ -100 mg, 60 softgels	62.00	46.50		
	(SUPER UBIQUINOL) COQ10 w/ENH MITOCHONDRIAL SUPPORT™ -4 bot of 60 softgels	224.00	168.00		
	(SUPER UBIQUINOL) COQ10 w/ENH MITOCHONDRIAL SUPPORT™ -10 bot of 60 softgels	520.00	390.00		
01425	(SUPER UBIQUINOL) COQ10 w/ENH MITOCHONDRIAL SUPPORT™ -50 mg, 100 softgels	58.00	43.50		
	(SUPER UBIQUINOL) COQ10 w/ENH MITOCHONDRIAL SUPPORT™ -4 bot of 100 softgels	212.00	159.00		
	(SUPER UBIQUINOL) COQ10 w/ENH MITOCHONDRIAL SUPPORT™ -10 bot of 100 softgels	500.00	375.00		
01427	(SUPER UBIQUINOL) COQ10 w/ENH MITOCHONDRIAL SUPPORT™ -50 mg, 30 softgels	20.00	15.00		
	(SUPER UBIQUINOL) COQ10 w/ENH MITOCHONDRIAL SUPPORT™ -4 bot of 30 softgels	72.00	54.00		
01431	(SUPER UBIQUINOL) COQ10 w/ENH MITOCHONDRIAL SUPPORT™ -200 mg, 30 softgels	62.00	46.50		
	(SUPER UBIQUINOL) COQ10 w/ENH MITOCHONDRIAL SUPPORT™ -4 bot of 30 softgels	224.00	168.00		
	(SUPER UBIQUINOL) COQ10 w/ENH MITOCHONDRIAL SUPPORT™ -10 bot of 30 softgels	520.00	390.00		
01053	CORIOLUS VERSICOLOR SUPER STRENGTH - 600 mg, 150 veg. caps	99.95	74.96		
00857	COROMEGA CHILD BRAIN & BODY - (Lemon Lime) 30 packets	25.00	18.75		
	COROMEGA CHILD BRAIN & BODY - (Lemon Lime) 4 boxes of 30 packets	90.00	67.00		
80118	COSMESIS ANTI-AGING MASK - 2 oz bottle	66.60	49.95		
	COSMESIS ANTI-AGING MASK - 2-2 oz bottles	117.22	87.92		

SUB-TOTAL OF COLUMN 4

Buyers Club Order Form

To order call: 1.954.766.8433 or 1.800.544.4440

No.		Retail	Member Price	Qty	Total
C CONTINUED					
80134	COSMESIS ANTI-GLYCATION SERUM - 1 oz bottle w/BLUEBERRY & POMEGRANATE EXTRACTS	\$24.00	\$18.00		
	COSMESIS ANTI-GLYCATION SERUM - 2-1 oz bottles w/BLUEBERRY & POMEGRANATE EXTRACTS	45.60	34.20		
80133	COSMESIS ANTIOXIDANT FACIAL MIST - 2 oz bottle	29.95	22.46		
	COSMESIS ANTIOXIDANT FACIAL MIST - 2-2 oz bottles	56.90	42.68		
80132	COSMESIS ANTIOXIDANT FACIAL MIST - 4 oz bottle	39.95	29.96		
	COSMESIS ANTIOXIDANT FACIAL MIST - 2-4 oz bottles	76.00	57.00		
80127	COSMESIS ANTIOXIDANT REJUVENATING FOOT CREAM - 2 oz jar	39.95	29.96		
	COSMESIS ANTIOXIDANT REJUVENATING FOOT CREAM - 2-2 oz jar	76.00	57.00		
80128	COSMESIS ANTIOXIDANT REJUVENATING FOOT SCRUB - 2 oz jar	52.95	39.71		
	COSMESIS ANTIOXIDANT REJUVENATING FOOT SCRUB - 2-2 oz jar	93.20	69.90		
80117	COSMESIS ANTIOXIDANT REJUVENATING HAND CREAM - 2 oz jar	59.00	44.25		
	COSMESIS ANTIOXIDANT REJUVENATING HAND CREAM - 2-2 oz jars	106.00	79.50		
80121	COSMESIS ANTIOXIDANT REJUVENATING HAND SCRUB - 2 oz jar	52.95	39.71		
	COSMESIS ANTIOXIDANT REJUVENATING HAND SCRUB - 2-2 oz jars	93.20	69.90		
80105	COSMESIS ANTI-REDNESS & BLEMISH LOTION - 1 oz	69.95	52.46		
	COSMESIS ANTI-REDNESS & BLEMISH LOTION - 2-1 oz bottles	123.12	92.34		
80120	COSMESIS CORRECTIVE CLEARING MASK - 2 oz jar	59.95	44.96		
	COSMESIS CORRECTIVE CLEARING MASK - 2-2 oz jars	105.52	79.14		
80108	COSMESIS ESSENTIAL PLANT LIPIDS REPARATIVE SERUM - 1 oz	71.60	53.70		
	COSMESIS ESSENTIAL PLANT LIPIDS REPARATIVE SERUM - 2-1 oz bottles	126.00	94.50		
80123	COSMESIS FACE REJUVENATING ANTIOXIDANT CREAM - 2 oz jar	65.00	48.75		
	COSMESIS FACE REJUVENATING ANTIOXIDANT CREAM - 2-2 oz jars	114.40	85.80		
80107	COSMESIS FINE LINE-LESS - 1 oz	69.95	52.46		
	COSMESIS FINE LINE-LESS - 2-1 oz bottles	123.12	92.34		
80131	COSMESIS HAIR SUPPRESS FORMULA - 4 oz bottle	53.75	40.31		
	COSMESIS HAIR SUPPRESS FORMULA - 2- 4 oz bottles	94.60	70.95		
80137	COSMESIS HEALING FORMULA ALL-IN-ONE CREAM - 1 oz jar	49.00	36.75		
	COSMESIS HEALING FORMULA ALL-IN-ONE CREAM - 2-1 oz jars	84.00	63.00		
80115	COSMESIS HEALING MASK - 2 oz bottle	59.95	44.96		
	COSMESIS HEALING MASK - 2-2 oz bottles	105.52	79.14		
80109	COSMESIS HYALURONIC FACIAL MOISTURIZER - 1 oz	52.95	39.71		
	COSMESIS HYALURONIC FACIAL MOISTURIZER - 2 bottles of 1 oz	93.20	69.90		
80110	COSMESIS HYALURONIC OIL-FREE FACIAL MOISTURIZER - 1 oz	52.95	39.71		
	COSMESIS HYALURONIC OIL-FREE FACIAL MOISTURIZER - 2 btl of 1 oz	93.20	69.90		
80138	COSMESIS HYDRATING ANTI-OXIDANT FACE MIST - 4 oz bottle	39.95	29.96		
	COSMESIS HYDRATING ANTI-OXIDANT FACE MIST - 2 bottles of 4 oz	76.00	57.00		
80103	COSMESIS LIFTING & TIGHTENING COMPLEX - 1 oz	69.95	52.46		
	COSMESIS LIFTING & TIGHTENING COMPLEX - 2 bottles of 1 oz	123.12	92.34		
80135	COSMESIS MELATONIN CREAM - 1 oz jar	28.00	21.00		
	COSMESIS MELATONIN CREAM - 2 - 1 oz jars	46.00	34.50		
80114	COSMESIS MILD FACIAL CLEANSER - 8 oz	52.95	39.71		
	COSMESIS MILD FACIAL CLEANSER - 2 bottles of 8 oz	93.20	69.90		
80122	COSMESIS NECK REJUVENATING ANTIOXIDANT CREAM - 2 oz jar	59.00	44.25		
	COSMESIS NECK REJUVENATING ANTIOXIDANT CREAM - 2-2 oz jars	106.00	79.50		
80119	COSMESIS PEEL OFF CLEANSING MASK - 2 oz bottle	59.95	44.96		
	COSMESIS PEEL OFF CLEANSING MASK - 2-2 oz bottles	105.52	79.14		
80111	COSMESIS PIGMENT CORRECTING CREAM - 1/2 oz	69.95	52.46		
	COSMESIS PIGMENT CORRECTING CREAM - 2 bottles of 1/2 oz	123.12	92.34		
80106	COSMESIS REJUVENATING SERUM - 1 oz	69.95	52.46		
	COSMESIS REJUVENATING SERUM - 2 bottles of 1 oz	123.12	92.34		
80112	COSMESIS SKIN LIGHTENING SERUM - 1/2 oz	79.95	59.96		
	COSMESIS SKIN LIGHTENING SERUM - 2 bottles of 1/2 oz	140.72	105.54		

SUB-TOTAL OF COLUMN 5

NOVEMBER 2010

No.		Retail	Member Price	Qty	Total
80130	COSMESIS SKIN STEM CELL SERUM - 1 oz	\$69.00	\$51.75		
	COSMESIS SKIN STEM CELL SERUM - 2 bottles of 1 oz	128.00	96.00		
80116	COSMESIS ULTRA LIP PLUMPER - 1/3 oz	59.95	44.96		
	COSMESIS ULTRA LIP PLUMPER - 2 bottles of 1/3 oz	105.52	79.14		
80101	COSMESIS ULTRA WRINKLE RELAXER - 1 oz	89.95	67.46		
	COSMESIS ULTRA WRINKLE RELAXER - 2 bottles of 1 oz	159.52	119.64		
80113	COSMESIS UNDER EYE REFINING SERUM - 1/2 oz	69.95	52.46		
	COSMESIS UNDER EYE REFINING SERUM - 2 bottles of 1/2 oz	123.12	92.34		
80104	COSMESIS UNDER EYE RESCUE CREAM - 1/2 oz	69.95	52.46		
	COSMESIS UNDER EYE RESCUE CREAM - 2 bottles of 1/2 oz	123.12	92.34		
80129	COSMESIS VITAMIN C SERUM - 1 oz	79.95	59.96		
	COSMESIS VITAMIN C SERUM - 2 bottles of 1 oz	140.72	105.54		
80136	COSMESIS VITAMIN D LOTION - 4 oz	29.95	22.46		
	COSMESIS VITAMIN D LOTION - 2 bottles of 4 oz	56.00	42.00		
80102	COSMESIS VITAMIN K HEALING CREAM - 1 oz	74.95	56.21		
	COSMESIS VITAMIN K HEALING CREAM - 2 bottles of 1 oz	131.92	98.94		
00862	CRAN-MAX® - 500 mg, 60 veg. caps	17.50	13.13		
	CRAN-MAX® - 4 bottles of 60 veg. caps	60.00	45.00		
01424	(OPTIMIZED) CRAN-MAX® with UTIROSE™ - 60 veg. caps	18.00	13.50		
	(OPTIMIZED) CRAN-MAX® with UTIROSE™ - 4 bottles of 60 veg. caps	64.00	48.00		
00609	CREATINE CAPS MICRONIZED - 120 caps	10.95	8.21		
	CREATINE CAPS MICRONIZED - 4 bottles of 120 caps	37.00	27.75		
00610	CREATINE POWDER MICRONIZED - 500 grams of powder	29.00	21.75		
	CREATINE POWDER MICRONIZED - 4 bottles of powder	106.52	79.89		
01096	CREATINE-WHEY-GLUTAMINE POWDER - 1 kg vanilla	45.00	33.75		
	CREATINE-WHEY-GLUTAMINE POWDER - 4 bottles of powder	168.00	126.00		
01429	CR MIMETIC LONGEVITY FORMULA - 60 veg. caps	39.00	29.25		
	CR MIMETIC LONGEVITY FORMULA - 4 bottles of 60 veg. caps	144.00	108.00		
*CRWAY	(NUTRIBASE) CRWAY EDITION ADVANCED DIETARY SOFTWARE	195.00	195.00		
00912	(SUPER) CURCUMIN W/BIOPERINE® - 800 mg, 60 caps	26.00	19.50		
	(SUPER) CURCUMIN W/BIOPERINE® - 4 bottles of 60 caps	96.00	72.00		
00407	(SUPER BIO) CURCUMIN® - 400 mg, 60 veg. caps	35.00	26.25		
	(SUPER BIO) CURCUMIN® - 4 bottles of 60 veg. caps	128.00	96.00		
00064	(L) CYSTEINE CAPSULES - 500 mg, 60 caps	18.95	14.21		
	(L) CYSTEINE CAPSULES - 4 bottles of 60 caps	65.24	48.93		
D					
01063	DERMA-VITS™ - 90 caps	\$14.99	\$11.24		
01313	DERMA WHEY- 400 mg, 60 caps	65.00	48.75		
	DERMA WHEY- 4 bottles of 60 caps	236.00	177.00		
00856	(BARLEAN'S KID'S) DHA (Fruit Punch Flavor)- 8 fl. oz	22.00	16.50		
	(BARLEAN'S KID'S) DHA (Fruit Punch Flavor)- 4 bottles of 8 fl. oz	80.00	60.00		
00995	DHA 240 - 240 mg, 60 softgels	19.00	14.25		
	DHA 240 - 4 bottles of 60 softgels	68.00	51.00		
00658	7-KETO® DHEA METABOLITE - 25 mg, 100 caps	28.00	21.00		
	7-KETO® DHEA METABOLITE - 4 bottles of 100 caps	96.00	72.00		
01271	7-KETO® DHEA METABOLITE - 100 mg, 60 veg. caps	40.00	30.00		
	7-KETO® DHEA METABOLITE - 4 bottles of 60 veg. caps	144.00	108.00		
00607	DHEA - 25 mg dissolve in mouth 100 tablets pharmaceutical-grade	14.00	10.50		
	DHEA - 4 bottles of 100 tablets pharmaceutical-grade	47.00	35.25		
01250	DHEA COMPLETE - 60 veg. caps	48.00	36.00		
	DHEA COMPLETE - 4 bottles of 60 veg. caps	172.80	129.60		
00335	DHEA - 25 mg, 100 caps	15.00	11.25		
	DHEA - 4 bottles of 100 caps	50.00	37.50		

* Not eligible for member discount or member renewal product credit.

SUB-TOTAL OF COLUMN 6

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

No.		Retail	Member Price	Qty	Total
00454	DHEA - 15 mg, 100 caps	\$12.00	\$9.00		
	DHEA - 4 bottles of 100 caps	40.00	30.00		
00882	DHEA - 50 mg, 60 caps	16.00	12.00		
	DHEA - 4 bottles of 60 caps	56.00	42.00		
00883	DHEA - 100 mg, 60 caps	22.50	16.88		
	DHEA - 4 bottles of 60 caps	76.00	57.00		
01358	DIGEST RC - 30 tablets	19.95	14.96		
	DIGEST RC - 4 boxes of 30 tablets	68.00	51.00		
01272	(ENHANCED SUPER) DIGESTIVE ENZYMES - 100 veg. caps	18.95	14.21		
	(ENHANCED SUPER) DIGESTIVE ENZYMES - 4 bottles of 100 veg. caps	64.00	48.00		
01273	(ENHANCED SUPER) DIGESTIVE ENZYMES w/PROBIOTICS - 100 veg. caps	24.00	18.00		
	(ENHANCED SUPER) DIGESTIVE ENZYMES w/PROBIOTICS - 4 bottles of 100 veg. caps	88.00	66.00		
*01042	(EUROPEAN LEG SOLUTION) DIOSMIN95 - 600 mg, 30 veg. tabs	20.00	15.00		
	(EUROPEAN LEG SOLUTION) DIOSMIN95 - 4 bottles of 30 veg. tabs	72.00	54.00		
00034	D,L-PHENYLALANINE CAPSULES - 500 mg, 100 caps	18.75	14.06		
	D,L-PHENYLALANINE CAPSULES - 4 bottles of 100 caps	64.00	48.00		
00257	DMAE BITARTRATE - 150 mg, 200 caps	14.00	10.50		
	DMAE BITARTRATE - 4 bottles of 200 caps	42.00	31.50		
00197	DMAE-GINKGO CAPSULES - 100 caps	36.00	27.00		
	DMAE-GINKGO CAPSULES - 4 bottles of 100 caps	120.00	90.00		
	DMAE-GINKGO CAPSULES - 8 bottles of 100 caps	220.00	165.00		
00059	DMG - 125 mg dimethylglycine, 60 tablets	18.50	13.88		
	DMG - 4 boxes of 60 tablets	68.00	51.00		
01052	DNA PROTECTION FORMULA - 60 veg. caps	28.00	21.00		
	DNA PROTECTION FORMULA - 4 bottles of 60 veg. caps	100.80	75.60		
00321	DR. PROCTOR'S ADVANCED HAIR FORMULA - 2 oz	39.95	29.96		
	DR. PROCTOR'S ADVANCED HAIR FORMULA - 4 bottles	128.00	96.00		
00320	DR. PROCTOR'S HAIR FORMULA SHAMPOO - 8 oz bottle	24.95	18.71		
	DR. PROCTOR'S HAIR FORMULA SHAMPOO - 4 bottles	88.00	66.00		
00376	DR. TUNG'S TONGUE CLEANER	8.45	6.34		
	DR. TUNG'S TONGUE CLEANERS - 4 quantity	32.20	24.15		
00899	DUAL-ACTION MICRODERMABRASION ADV. EXFOLIATE - 2.4 net oz jar	39.95	29.96		
	DUAL-ACTION MICRODERMABRASION ADV. EXFOLIATE - 4 jars of 2.4 net oz	155.80	116.85		
00240	DUAL-C - 90 caps	12.00	9.00		
	DUAL-C - 4 bottles of 90 caps	42.00	31.50		
E					
00388	ECHINACEA - 250 mg, 60 caps	\$14.35	\$10.76		
	ECHINACEA - 4 bottles of 60 caps	50.00	37.50		
01024	EDTA - 500 mg, 100 caps	17.50	13.13		
00048	(EMULSIFIED SUPER TWIN) EPA/DHA - 12 fl. oz.	22.45	16.84		
01498	ENDOTHELIAL DEFENSE™ w/FULL-SPECTRUM POMEGRANATE™ - 60 softgels	56.00	42.00		
	ENDOTHELIAL DEFENSE™ w/FULL-SPECTRUM POMEGRANATE™ - 4 bottles of 60 softgels	208.00	156.00		
00997	ENDOTHELIAL DEFENSE™ w/GLISODIN® - 60 veg. caps	52.00	39.00		
	ENDOTHELIAL DEFENSE™ w/GLISODIN® - 4 bottles of 60 veg. caps	184.00	138.00		
00625	(MEGA) EPA/DHA - 120 softgels	19.95	14.96		
	(MEGA) EPA/DHA - 4 bottles of 120 softgels	72.00	54.00		
01428	ESSENTIAL FAT-SOLUBLE NUTRIENTS - 30 softgels	28.00	21.00		
	ESSENTIAL FAT-SOLUBLE NUTRIENTS - 4 bottles of 30 softgels	100.00	75.00		
F					
†01054	FACE MASTER® PLATINUM	\$199.00	\$199.00		
00965	FAST-ACTING JOINT FORMULA - 30 caps	39.00	29.25		
	FAST-ACTING JOINT FORMULA - 4 bottles of 30 caps	144.00	108.00		
20053	FEM DOPHILUS® - 30 caps	24.95	18.71		
20055	FEM DOPHILUS® - 60 caps	35.95	26.96		
01064	FEMMENESSENCE MACAPAUSE® - 120 veg. caps	34.99	26.24		
*01311	(ENHANCED) FERNBLOCK® w/SENDARA™ - 30 veg. caps	39.00	29.25		
	(ENHANCED) FERNBLOCK® w/SENDARA™ - 4 bottles of 30 veg. caps	140.00	105.00		

SUB-TOTAL OF COLUMN 7

No.		Retail	Member Price	Qty	Total
00229	FIBER FOOD CAPS - 200 caps	\$15.00	\$11.25		
	FIBER FOOD CAPS - 4 bottles of 200 caps	50.00	37.50		
	FIBER FOOD CAPS - 10 bottles of 200 caps	119.00	89.25		
00228	FIBER FOOD - 300 grams of powder	15.00	11.25		
	FIBER FOOD - 4 bottles of powder	50.00	37.50		
	FIBER FOOD - 10 bottles of powder	119.00	89.25		
00718	FIBRINOGEN RESIST FORMULA (NATTOKINASE) - 30 veg. caps	49.00	36.75		
	FIBRINOGEN RESIST FORMULA (NATTOKINASE) - 4 bottles of 30 caps	176.00	132.00		
00873	FLAXSEED POWDER (HI-LIGNAN NUTRI-FLAX) - 16 oz powder	9.95	7.46		
01200	FLORASTOR® - 250 mg, 50 caps	55.15	41.36		
01312	(OPTIMIZED) FOLATE (5-METHYLTETRAHYDROFOLATE) - 100 veg. caps	28.00	21.00		
	(OPTIMIZED) FOLATE (5-METHYLTETRAHYDROFOLATE) - 4 bottles of 100 veg. caps	100.00	75.00		
00347	FOLIC ACID + B12 CAPSULES - 200 caps	10.50	7.88		
	FOLIC ACID + B12 CAPSULES - 4 bottles of 200 caps	38.00	28.50		
00300	FORSKOLIN - 10 mg, 60 caps of elemental forskolin	15.00	11.25		
	FORSKOLIN - 4 bottles of 60 caps of elemental forskolin	50.00	37.50		
00993	FUCOXANTHIN-SLIM™ - 90 softgels	44.00	33.00		
	FUCOXANTHIN-SLIM™ - 4 bottles of 90 softgels	156.00	117.00		
G					
00127	GABA POWDER - 100 grams of powder	\$23.75	\$17.81		
	GABA POWDER - 4 bottles of powder	90.00	67.50		
00559	GAMMA E TOCOPHEROL/TOCOTRIENOLS - 60 softgels	42.00	31.50		
	GAMMA E TOCOPHEROL/TOCOTRIENOLS - 4 bottles of 60 softgels	148.00	111.00		
00759	GAMMA E TOCOPHEROL W/SESAME LIGNANS - 60 softgels	32.00	24.00		
	GAMMA E TOCOPHEROL W/SESAME LIGNANS - 4 bottles of 60 softgels	116.00	87.00		
00117	GELATIN CAPSULES - Set of 1000 empty caps size "00"	19.00	14.25		
	GELATIN CAPSULES - 4 Sets	72.00	54.00		
01301	GH PITUITARY SUPPORT DAY FORMULA - 120 vegetarian tabs	48.00	36.00		
	GH PITUITARY SUPPORT DAY FORMULA - 4 bottles of 120 veg. tabs	176.00	132.00		
01302	GH PITUITARY SUPPORT NIGHT FORMULA - 120 veg. caps	25.00	18.75		
	GH PITUITARY SUPPORT NIGHT FORMULA - 4 bottles of 120 veg. caps	90.00	67.50		
00778	GINKGO BILOBA CERTIFIED EXTRACT™ - 120 mg, 365 caps	46.00	34.50		
	GINKGO BILOBA CERTIFIED EXTRACT™ - 2 bottles of 365 caps	87.00	65.25		
00504	(SUPER) GINKGO EXTRACT - 120 mg, 100 caps	29.00	21.75		
	(SUPER) GINKGO EXTRACT - 4 bottles of 100 caps	106.00	79.50		
01032	(PANAX RED) GINSENG - 60 veg. caps	29.99	22.49		
00756	(MEGA) GLA WITH SESAME LIGNANS - 60 softgels	19.50	14.63		
	(MEGA) GLA WITH SESAME LIGNANS - 4 bottles of 60 softgels	72.00	54.00		
00345	(L) GLUTAMINE CAPSULES - 500 mg, 100 caps	14.95	11.21		
	(L) GLUTAMINE CAPSULES - 4 bottles of 100 caps	54.00	40.50		
00141	(L)-GLUTAMINE POWDER - 100 grams of powder	19.00	14.25		
	(L)-GLUTAMINE POWDER - 4 bottles of powder	67.52	50.64		
00522	GLUCOSAMINE/CHONDROITIN CAPSULES - 100 caps	38.00	28.50		
	GLUCOSAMINE/CHONDROITIN CAPSULES - 4 bottles of 100 caps	128.00	96.00		
00512	GLUCOFIT™ (COROSOLIC ACID) - 100 softgels	28.00	21.00		
	GLUCOFIT™ (COROSOLIC ACID) - 4 bottles of 100 softgels	100.00	75.00		
00113	GLUTATHIONE, C & CYSTEINE - 750 mg, 100 caps	18.00	13.50		
	GLUTATHIONE, C & CYSTEINE - 4 bottles of 100 caps	64.00	48.00		
00314	(MEGA) L-GLUTATHIONE - 250 mg, 60 caps	35.95	26.96		
	(MEGA) L-GLUTATHIONE - 4 bottles of 60 caps	129.44	97.08		

* Due to license restrictions, this product is not for sale to wholesalers outside of the United States of America and Canada.

** Can only be sold in the United States.

† Member pricing not valid on this item.

SUB-TOTAL OF COLUMN 8

Buyers Club Order Form

To order call: 1.954.766.8433 or 1.800.544.4440

No.		Retail	Member Price	Qty	Total
G CONTINUED					
00795	GLYCINE CAPSULES - 1000 mg, 100 caps	\$12.00	\$9.00		
	GLYCINE CAPSULES - 4 bottles of 100 caps	43.20	32.40		
00128	GLYCINE POWDER - 300 grams of powder	18.00	13.50		
	GLYCINE POWDER - 4 bottles of powder	64.00	48.00		
01091	(WHOLE) GRAPE EXTRACT w/RESVERATROL - 60 veg. caps	36.00	27.00		
	(WHOLE) GRAPE EXTRACT w/RESVERATROL - 4 bottles of 60 veg. caps	136.00	102.00		
01411	GRAPE SEED EXTRACT w/RESVERATROL & PTEROSTILBENE-100 mg, 60 veg. caps	36.00	27.00		
	GRAPE SEED EXTRACT w/RESVERATROL & PTEROSTILBENE-4 bottles of 60 veg. caps	136.00	102.00		
00953	(MEGA) GREEN TEA EXTRACT - lightly caffeinated - 100 veg. caps	28.00	21.00		
	(MEGA) GREEN TEA EXTRACT - 4 bottles of 100 veg. caps	106.00	79.50		
00954	(MEGA) GREEN TEA EXTRACT - decaffeinated - 100 veg. caps	28.00	21.00		
	(MEGA) GREEN TEA EXTRACT - 4 bottles of 100 veg. caps	106.00	79.50		
H					
01074	5 HTP - 100 mg, 60 caps	\$27.95	\$20.96		
00230	HCA - 90 caps	18.00	13.50		
	HCA - 4 bottles of 90 caps	62.00	46.50		
00656	HEPATOPRO - 900 mg, 60 softgel	49.50	37.13		
	HEPATOPRO - 4 bottles of 60 softgel	188.00	141.00		
00873	HI-LIGNAN NUTRI-FLAX - 16 oz powder	9.95	7.46		
00800	HOMOCYSTEINE RESIST - 100 caps	24.00	18.00		
	HOMOCYSTEINE RESIST - 4 bottles of 100 caps	86.40	64.80		
00067	HOODIA GORDONII - 60 caps	14.00	10.50		
00627	HUPERZINE A W/NATURAL VITAMIN E - 50 mcg, 60 caps	27.95	20.96		
	HUPERZINE A W/NATURAL VITAMIN E - 4 bottles of 60 caps	96.00	72.00		
00661	HYDRODERM® - 1 oz bottle	79.95	59.96		
	HYDRODERM® - 2 - 1 oz bottles	130.66	98.00		
I					
01060	i26 HYPERIMMUNE EGG - 140 grams of powder	\$49.99	\$42.00		
01065	IDEAL BOWEL SUPPORT 299V - 30 veg. caps	21.95	16.46		
00955	IMMUNE PROTECT W/PARACTIN® - 30 veg. caps	29.50	22.13		
	IMMUNE PROTECT W/PARACTIN® - 4 bottles of 30 veg. caps	106.20	79.65		
01049	INNERPOWER™ W/SWEET STEVIA- Tropical Flavor Powder	42.00	31.50		
00155	INOSINE CAPSULES - 500 mg, 60 caps	22.95	17.21		
	INOSINE CAPSULES - 4 bottles of 60 caps	84.00	63.00		
00109	INOSITOL CAPSULES - 500 mg, 100 caps	14.99	11.24		
	INOSITOL CAPSULES - 4 bottles of 100 caps	55.16	41.37		
00410	INOSITOL CAPSULES - 1000 mg, 360 caps	48.00	36.00		
	INOSITOL CAPSULES - 4 bottles of 360 caps	175.00	131.25		
00108	INOSITOL POWDER - 100 grams of powder	18.00	13.50		
	INOSITOL POWDER - 4 bottles of powder	67.52	50.64		
01021	INTACT DIGEST™ - 8 fl oz	35.00	26.25		
	INTACT DIGEST™ - 4 - 8 fl oz bottles	132.00	99.00		
01292	INTEGRA-LEAN® IRVINGIA - 150 mg, 60 veg. caps	34.00	25.50		
	INTEGRA-LEAN® IRVINGIA - 4 bottles of 60 veg. caps	120.00	90.00		
01002	IODORAL - 180 caps	50.00	37.50		
00563	IRON PROTEIN PLUS - 300 mg, 100 caps	24.00	18.00		
	IRON PROTEIN PLUS - 4 bottles of 100 caps	88.00	66.00		
01492	(OPTIMIZED) IRVINGIA W/PHASE 3™ - 120 veg. caps	64.00	48.00		
	CALORIE CONTROL COMPLEX				
	(OPTIMIZED) IRVINGIA w/PHASE 3™ - 4 bottles of 120 veg. caps	240.00	180.00		
	CALORIE CONTROL COMPLEX				

SUB-TOTAL OF COLUMN 9

NOVEMBER 2010

No.		Retail	Member Price	Qty	Total
J, K					
00056	JARRO-DOPHILUS EPS™ - 60 veg. caps	\$19.95	\$14.96		
01224	(SUPER) K WITH ADVANCED K2 COMPLEX - 90 softgels	26.00	19.50		
	(SUPER) K WITH ADVANCED K2 COMPLEX - 4 bottles of 90 softgels	92.00	69.00		
01050	NKO KRILL OIL - 60 softgels	33.95	25.46		
00316	KYOLIC® GARLIC FORMULA 102 - 350 mg, 200 caps	23.95	17.96		
	KYOLIC® GARLIC FORMULA 102 - 4 bottles of 200 caps	82.00	61.50		
00214	KYOLIC® GARLIC FORMULA 105 - 200 caps	22.95	17.21		
	KYOLIC® GARLIC FORMULA 105 - 4 bottles of 200 caps	73.00	54.75		
00789	KYOLIC® RESERVE - 600 mg, 120 caps	24.75	18.56		
	KYOLIC® RESERVE - 4 bottles of 120 caps	85.80	64.36		
L					
00513	LACTOFERRIN (APOLACTOFERRIN) CAPS - 300 mg, 60 caps	\$40.00	\$30.00		
	LACTOFERRIN (APOLACTOFERRIN) CAPS - 4 bottles of 60 caps	144.00	108.00		
00017	LAVILIN UNDERARM DEODORANT - 12.5 grams of cream	15.00	11.25		
	LAVILIN UNDERARM DEODORANT - 4 jars of cream	55.00	41.25		
01003	LIFE EXTENSION CAT MIX - 100 grams of powder	15.00	11.25		
	LIFE EXTENSION CAT MIX - 4 bottles of powder	48.00	36.00		
00544	LIFE EXTENSION DOG MIX - 100 grams of powder	19.50	14.63		
	LIFE EXTENSION DOG MIX - 4 bottles of powder	64.00	48.00		
00010	LIFE EXTENSION HAIR CONDITIONER - 16 oz bottle	6.00	4.50		
	LIFE EXTENSION HAIR CONDITIONER - 4 bottles	18.00	13.50		
00020	LIFE EXTENSION LECITHIN GRANULES - 16 oz. jar	15.00	11.25		
	LIFE EXTENSION LECITHIN GRANULES - 4 jars	50.00	37.50		
00019	LIFE EXTENSION LECITHIN w/B5 AND BHA - 16 oz. jar	15.00	11.25		
	LIFE EXTENSION LECITHIN w/B5 AND BHA - 4 16 oz. 4 jars	50.00	37.50		
01538	LIFE EXTENSION MIX™ - 315 veg. tablets	98.00	73.50		
	LIFE EXTENSION MIX™ - 4 bottles of 315 veg. tablets	344.00	258.00		
	LIFE EXTENSION MIX™ - 10 bottles of 315 veg. tablets	695.00	521.25		
01555	LIFE EXTENSION MIX™ - 315 tablets	98.00	73.50		
	LIFE EXTENSION MIX™ - 4 bottles of 315 tablets	344.00	258.00		
	LIFE EXTENSION MIX™ - 10 bottles of 315 tablets	695.00	521.25		
01557	LIFE EXTENSION MIX™ W/EXTRA NIACIN - 315 tablets	98.00	73.50		
	LIFE EXTENSION MIX™ w/EXTRA NIACIN - 4 bottles of 315 tablets	344.00	258.00		
	LIFE EXTENSION MIX™ w/EXTRA NIACIN - 10 bottles of 315 tablets	695.00	521.25		
01554	LIFE EXTENSION MIX™ - 490 caps	110.00	82.50		
	LIFE EXTENSION MIX™ - 4 bottles of 490 caps	392.00	294.00		
	LIFE EXTENSION MIX™ - 10 bottles of 490 caps	850.00	637.50		
01556	LIFE EXTENSION MIX™ POWDER - 14.81 oz of powder	98.00	73.50		
	LIFE EXTENSION MIX™ POWDER - 4 bottles of powder	344.00	258.00		
	LIFE EXTENSION MIX™ POWDER - 10 bottles of powder	720.00	540.00		
01565	LIFE EXTENSION MIX™ - 315 tablets without copper	98.00	73.50		
	LIFE EXTENSION MIX™ - 4 bottles of 315 tablets without copper	344.00	258.00		
	LIFE EXTENSION MIX™ - 10 bottles of 315 tablets without copper	695.00	521.25		
01567	LIFE EXTENSION MIX™ W/EXTRA NIACIN 315 tablets w/o copper	98.00	73.50		
	LIFE EXTENSION MIX™ w/EXTRA NIACIN 4 bottles of 315 tablets w/o copper	344.00	258.00		
	LIFE EXTENSION MIX™ W/EXTRA NIACIN 10 bottles of 315 tablets w/o copper	695.00	521.25		
01564	LIFE EXTENSION MIX™ - 490 caps without copper	110.00	82.50		
	LIFE EXTENSION MIX™ - 4 bottles of 490 caps without copper	392.00	294.00		
	LIFE EXTENSION MIX™ - 10 bottles of 490 caps without copper	850.00	637.50		
01566	LIFE EXTENSION MIX™ POWDER - 14.81 oz of powder without copper	98.00	73.50		
	LIFE EXTENSION MIX™ POWDER - 4 bottles of powder without copper	344.00	258.00		
	LIFE EXTENSION MIX™ POWDER - 10 bottles of powder without copper	720.00	540.00		

SUB-TOTAL OF COLUMN 10

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

No.		Retail	Member Price	Qty	Total
01279	LIFE EXTENSION MOUTHWASH w/POMEGRANATE - 16 oz bottle	\$18.50	\$13.88		
	LIFE EXTENSION MOUTHWASH w/POMEGRANATE - 4 -16 oz bottle	68.00	51.00		
01501	LIFE EXTENSION ONE-PER-DAY - 60 veg. tablets	19.95	14.96		
	LIFE EXTENSION ONE-PER-DAY - 4 bottles of 60 veg. tablets	72.00	54.00		
00011	LIFE EXTENSION SHAMPOO - 16 oz bottle	6.00	4.50		
	LIFE EXTENSION SHAMPOO - 4 bottles	19.00	14.25		
01278	LIFE EXTENSION TOOTHPASTE MINT FLAVOR - 4 oz	9.50	7.13		
	LIFE EXTENSION TOOTHPASTE MINT FLAVOR - 4, 4 oz tubes	34.68	26.00		
01516	LIFE EXTENSION TWO-PER-DAY - 60 veg. tablets	9.95	7.46		
	LIFE EXTENSION TWO-PER-DAY - 4 bottles of 60 veg. tablets	36.00	27.00		
01515	LIFE EXTENSION TWO-PER-DAY - 120 veg. tablets	18.95	14.21		
	LIFE EXTENSION TWO-PER-DAY - 4 bottles of 120 veg. tablets	68.00	51.00		
00263	LIFE FLORA™ - 300 mg, 120 caps	20.50	15.38		
	LIFE FLORA™ - 4 bottles of 120 caps	75.00	56.25		
00032	LIFE MIX - 1 lb can of powder	25.00	18.75		
	LIFE MIX - 4 cans of powder	90.00	67.50		
00939	5-LOXIN® - 75 mg, 100 veg. caps	19.50	14.63		
	5-LOXIN® - 4 bottles of 100 veg. caps	69.00	51.75		
01013	L-LYSINE CAPSULES - 620 mg, 100 caps	9.00	6.75		
	L-LYSINE CAPSULES - 4 bottles of 100 caps	32.00	24.00		
00129	L-LYSINE POWDER - 300 grams of powder	16.00	12.00		
	L-LYSINE POWDER - 4 bottles of powder	55.00	41.25		
01470	LURALEAN® CAPS SPECIAL PROPOLMANNAN PARTICLE SIZE - 120 veg. caps	28.00	21.00		
	LURALEAN® CAPS SPECIAL PROPOLMANNAN PARTICLE SIZE - 4 bottles of 120 veg. caps	100.00	75.00		
01017	LUSTRE™ - 90 tablets	17.50	13.13		
	LUSTRE™ - 4 bottles of 90 tablets	62.00	46.50		
01028	LYCOPENE - 10 mg, 60 softgels	24.98	18.74		
00455	(MEGA) LYCOPENE EXTRACT - 15 mg, 90 softgels	35.00	26.25		
	(MEGA) LYCOPENE EXTRACT - 4 bottles of 90 softgels	120.00	90.00		
M					
01044	MAGNESIUM CAPS - 500 mg, 100 caps	\$9.50	\$7.13		
	MAGNESIUM CAPS - 4 bottles of 100 caps	32.00	24.00		
00502	MAGNESIUM CITRATE CAPS - 160 mg, 100 caps	9.00	6.75		
	MAGNESIUM CITRATE CAPS - 4 bottles of 100 caps	30.00	22.50		
00704	MAITAKE™ SX-FRACTION - 90 veg. tablets	49.95	37.46		
00547	MELATONIN - 300 mcg, 100 caps	5.75	4.31		
	MELATONIN - 4 bottles of 100 caps	20.00	15.00		
01083	MELATONIN CAPSULES - 500 mcg, 200 veg. caps	18.00	13.50		
	MELATONIN CAPSULES - 4 bottles of 200 veg. caps	64.00	48.00		
00329	MELATONIN CAPSULES - 1 mg, 60 caps	5.00	3.75		
	MELATONIN CAPSULES - 4 bottles of 60 caps	18.52	13.89		
00330	MELATONIN CAPSULES - 3 mg, 60 caps	8.00	6.00		
	MELATONIN CAPSULES - 4 bottles of 60 caps	27.52	20.64		
01086	MELATONIN CAPSULES - 3 mg, 60 time-release veg. caps	10.50	7.88		
	MELATONIN CAPSULES - 4 bottles of 60 time-release veg. caps	37.52	28.14		
00331	MELATONIN CAPSULES - 10 mg, 60 caps	28.00	21.00		
	MELATONIN CAPSULES - 4 bottles of 60 caps	96.00	72.00		
00332	MELATONIN LOZENGES - 3 mg, 60 dissolve-in-mouth lozenges	8.00	6.00		
	MELATONIN LOZENGES - 4 bottles of 60 dissolve-in-mouth lozenges	27.52	20.64		
01087	MELATONIN TIME RELEASE - 300 mcg, 100 veg. caps	6.25	4.69		
	MELATONIN TIME RELEASE - 4 bottles of 100 veg. caps	22.52	16.89		

SUB-TOTAL OF COLUMN 11

No.		Retail	Member Price	Qty	Total
01088	MELATONIN TIME RELEASE - 750 mcg, 60 veg. caps	\$5.75	\$4.31		
	MELATONIN TIME RELEASE - 4 bottles of 60 veg. caps	20.00	15.00		
01009	MEMORY UPGRADE - 600 grams powder	26.95	20.21		
01047	MENOPAUSE SOLUTIONS - 120 tablets	49.95	37.46		
00536	METHYLCOBALAMIN - 1 mg, 60 dissolve-in-mouth lozenges (vanilla)	9.95	7.46		
	METHYLCOBALAMIN - 4 bottles of 60 dissolve-in-mouth lozenges	32.00	24.00		
00537	METHYLCOBALAMIN - 5 mg, 60 dissolve-in-mouth lozenges (vanilla)	32.00	24.00		
	METHYLCOBALAMIN - 4 bottles of 60 dissolve-in-mouth lozenges	100.00	75.00		
	METHYLCOBALAMIN - 10 bottles of 60 dissolve-in-mouth lozenges	230.00	172.50		
00709	MIGRA-EEZE (BUTTERBUR) - 60 softgels	29.50	22.13		
	MIGRA-EEZE (BUTTERBUR) - 4 bottles of 60 softgels	105.32	79.00		
00623	MINERAL FORMULA FOR MEN - 100 caps	15.00	11.25		
	MINERAL FORMULA FOR MEN - 4 bottles of 100 caps	50.00	37.50		
	MINERAL FORMULA FOR MEN - 12 bottles of 100 caps	130.00	97.50		
00624	MINERAL FORMULA FOR WOMEN - 100 caps	15.00	11.25		
	MINERAL FORMULA FOR WOMEN - 4 bottles of 100 caps	50.00	37.50		
	MINERAL FORMULA FOR WOMEN - 12 bottles of 100 caps	130.00	97.50		
01315	(SUPER) MIRAFORTE w/STANDARDIZED LIGNANS - 120 caps	62.00	46.50		
	(SUPER) MIRAFORTE w/STANDARDIZED LIGNANS - 4 bottles of 120 caps	224.00	168.00		
01368	MITOCHONDRIAL ENERGY OPTIMIZER - 120 caps	86.00	64.50		
	MITOCHONDRIAL ENERGY OPTIMIZER - 4 bottles of 120 caps	312.00	234.00		
00803	MISTORAL III w/COQ10 - 2 fl oz bottle	28.00	21.00		
	MISTORAL III w/COQ10 - 4 bottles	101.32	75.99		
00065	MK-7 - 90 mcg, 60 softgels	28.00	21.00		
	MK-7 - 4 bottles of 60 softgels	100.00	75.00		
00451	MSM (METHYL-SULFONYL-METHANE) - 1000 mg, 100 caps	14.00	10.50		
	MSM (METHYL-SULFONYL-METHANE) - 4 bottles of 100 caps	47.80	35.85		
N					
00215	N-ACETYL CYSTEINE CAPSULES - 600 mg, 60 caps	\$14.00	\$10.50		
	N-ACETYL CYSTEINE CAPSULES - 4 bottles of 60 caps	54.00	40.50		
00168	NAPCA W/ALOE VERA - 8 fl oz bottle	10.00	7.50		
	NAPCA W/ALOE VERA - 4 bottles	36.60	27.45		
00066	NATTOKINASE - 60 softgels	24.98	18.74		
00718	NATTOKINASE (FIBRINOGEN RESIST FORMULA) - 30 caps	49.00	36.75		
	NATTOKINASE (FIBRINOGEN RESIST FORMULA) - 4 bottles of 30 caps	176.00	132.00		
00891	NATURAL APPETITE CONTROL - 90 softgels	28.00	21.00		
	NATURAL APPETITE CONTROL - 4 bottles of 90 softgels	100.80	75.60		
00984	NATURAL BP MANAGEMENT - 60 tablets	42.00	31.50		
	NATURAL BP MANAGEMENT - 4 bottles of 60 tablets	151.20	113.40		
00913	NATURAL ESOPHAGUARD - 10 softgels	19.95	14.96		
	NATURAL ESOPHAGUARD - 2 boxes of 10 softgels	38.00	28.50		
00712	NATURAL ESTROGEN w/POMEGRANATE EXTRACT - 60 caplets	38.00	28.50		
	NATURAL ESTROGEN w/POMEGRANATE EXTRACT - 4 bottles of 60 caplets	132.00	99.00		
01221	NATURAL FEMALE SUPPORT - 30 veg. caps	28.00	21.00		
	NATURAL FEMALE SUPPORT - 4 bottles of 30 veg. caps	96.00	72.00		
01471	NATURAL GLUCOSE ABSORPTION CONTROL - 60 veg. caps	39.00	29.25		
	NATURAL GLUCOSE ABSORPTION CONTROL - 4 bottles of 60 veg. caps	144.00	108.00		
00698	NATURAL RELIEF 1222™ - 2 oz tube	28.00	21.00		
	NATURAL RELIEF 1222™ - 4, 2 oz tubes	100.00	75.00		
01084	NATURAL SLEEP - 3 mg, 60 veg. caps	12.99	9.74		
	NATURAL SLEEP - 4 bottles of 60 veg. caps	40.00	30.00		
01085	NATURAL SLEEP MELATONIN - 5 mg, 60 veg. caps	18.00	13.50		
	NATURAL SLEEP MELATONIN - 4 bottles of 60 veg. caps	64.00	48.00		

SUB-TOTAL OF COLUMN 12

Buyers Club Order Form

To order call: 1.954.766.8433 or 1.800.544.4440

No.		Retail	Member Price	Qty	Total
N CONTINUED					
00987	NATURAL STRESS RELIEF - 30 veg. caps	\$28.00	\$21.00		
	NATURAL STRESS RELIEF - 4 bottles of 30 veg. caps	96.00	72.00		
01000	NEW FACE SOLUTION - 1.7 oz bottle	54.00	40.50		
	NEW FACE SOLUTION - 4 bottles of 1.7 oz	196.00	147.00		
00096	NIACIN (B-3) CAPSULES - 1000 mg, 100 caps	12.75	9.56		
	NIACIN (B-3) CAPSULES - 4 bottles of 100 caps	48.00	36.00		
00372	NIACIN (B-3) CAPSULES - 500 mg, 100 caps	7.65	5.74		
	NIACIN (B-3) CAPSULES - 4 bottles of 100 caps	26.60	19.95		
00373	NO-FLUSH NIACIN - 800 mg, 100 caps	19.00	14.25		
	NO-FLUSH NIACIN - 4 bottles of 100 caps	68.00	51.00		
01035	NUTRIM POWDER - 170 grams powder	25.95	19.46		
00523	N-ZIMES® - 270 caps	23.90	17.93		
	N-ZIMES® - 4 bottles of 270 caps	88.00	66.00		
O					
00104	OCTACOSANOL - 8000 mcg, 60 caps	\$17.99	\$13.49		
	OCTACOSANOL - 4 bottles of 60 caps	62.96	47.22		
01483	(SUPER) OMEGA 3 EPA/DHA w/SESAME LIGNANS & OLIVE FRUIT EXTRACT - 60 softgels	18.00	13.50		
	(SUPER) OMEGA 3 EPA/DHA w/SESAME LIGNANS & OLIVE FRUIT EXTRACT - 4 bottles of 60 softgels	64.00	48.00		
01482	(SUPER) OMEGA 3 EPA/DHA w/SESAME LIGNANS & OLIVE FRUIT EXTRACT - 120 softgels	32.00	24.00		
	(SUPER) OMEGA 3 EPA/DHA w/SESAME LIGNANS & OLIVE FRUIT EXTRACT - 4 bottles of 120 softgels	112.00	84.00		
	(SUPER) OMEGA 3 EPA/DHA w/SESAME LIGNANS & OLIVE FRUIT EXTRACT - 10 bottles of 120 softgels	249.00	186.75		
01484	(SUPER) OMEGA 3 EPA/DHA w/SESAME LIGNANS & OLIVE FRUIT EXTRACT (ENTERIC COATED) - 120 softgels	34.00	25.50		
	(SUPER) OMEGA 3 EPA/DHA w/SESAME LIGNANS & OLIVE FRUIT EXTRACT (ENTERIC COATED) - 4 bottles of 120 softgels	124.00	93.00		
	(SUPER) OMEGA 3 EPA/DHA w/SESAME LIGNANS & OLIVE FRUIT EXTRACT (ENTERIC COATED) - 10 bottles of 120 softgels	280.00	210.00		
00717	ONLY TRACE MINERALS - 90 caps	15.00	11.25		
	ONLY TRACE MINERALS - 4 bottles of 90 caps	50.00	37.50		
00915	OPTIZINC® - 30 mg, 90 veg. caps	5.95	4.46		
	OPTIZINC® - 4 bottles of 90 veg. caps	20.00	15.00		
01070	ORGANIC TOTAL BODY CLEANSE - 14-day supply	34.99	26.24		
00043	L-ORNITHINE CAPSULES - 500 mg, 100 caps	24.95	18.71		
	L-ORNITHINE CAPSULES - 4 bottles of 100 caps	80.00	60.00		
P					
00107	PABA CAPS - 500 mg, 100 caps	\$13.99	\$10.49		
	PABA CAPS - 4 bottles of 100 caps	49.32	36.99		
00073	PANCREATIN - 500 mg, 50 caps	11.99	8.99		
	PANCREATIN - 4 bottles of 50 caps	43.96	32.97		
00923	PEAK ATP® WITH GLYCOCARN® - 60 tablets	59.00	44.25		
	PEAK ATP® WITH GLYCOCARN® - 4 bottles of 60 tablets	224.00	168.00		
00342	PECTA-SOL - One-month supply modified citrus pectin	99.95	74.96		
	PECTA-SOL - Four-month supply modified citrus pectin	382.80	287.10		
01080	PECTA-SOL-C® MODIFIED CITRUS PECTIN - 270 veg. caps	69.95	52.46		
00872	PGX FIBER POWDER (SLIMSTYLES) - 6.4 oz powder	22.95	17.21		
00673	(WELLBETX) PGX SOLUBLE FIBER BLEND -180 caps	34.95	26.21		
00865	PHARMAGABA™ - 60 chewable tablets	29.95	22.46		
	PHARMAGABA™ - 4 bottles of 60 chewable tablets	108.00	81.00		
00368	PHOSPHATIDYLSERINE CAPS - 100 mg, 100 caps	54.00	40.50		
	PHOSPHATIDYLSERINE CAPS - 4 bottles of 100 caps	192.00	144.00		
01050	PHOSPHOMEGA™ KRILL OIL - 60 softgels	33.95	25.46		
00614	PILL CUTTER/GRINDER	11.95	8.96		

SUB-TOTAL OF COLUMN 13

NOVEMBER 2010

No.		Retail	Member Price	Qty	Total
00561	POLICOSANOL - 10 mg, 60 tablets	\$24.00	\$18.00		
	POLICOSANOL - 6 bottles of 60 tablets	108.00	81.00		
01423	(FULL-SPECTRUM) POMEGRANATE™ - 30 softgels	24.00	18.00		
	(FULL-SPECTRUM) POMEGRANATE™ - 4 bottles of 30 softgels	84.00	63.00		
00956	POMEGRANATE EXTRACT - 30 veg. caps	19.50	14.63		
	POMEGRANATE EXTRACT - 4 bottles of 30 veg. caps	70.20	52.64		
00957	POMEGRANATE JUICE CONCENTRATE - 16 oz. liquid	25.95	19.46		
	POMEGRANATE JUICE CONCENTRATE - 4 bottles of 16 oz liquid	96.00	72.00		
00577	POTASSIUM IODIDE - 1 box, 14 tablets	6.95	5.21		
	POTASSIUM IODIDE - 4 boxes, 14 tablets	21.00	15.75		
00302	PREGNENOLONE CAPSULES - 50 mg, 100 caps	24.00	18.00		
	PREGNENOLONE CAPSULES - 4 bottles of 100 caps	76.00	57.00		
00700	PREGNENOLONE CAPSULES - 100 mg, 100 caps	26.00	19.50		
	PREGNENOLONE CAPSULES - 4 bottles of 100 caps	90.00	67.50		
*01373	PRELOX® NATURAL SEX FOR MEN® - 60 tablets	50.00	37.50		
	PRELOX® NATURAL SEX FOR MEN® - 4 bottles of 60 tablets	180.00	135.00		
00571	PRIMAL DEFENSE® - 900 mg, 90 caplets	49.95	37.46		
	PRIMAL DEFENSE® - 4 bottles of 90 caplets	194.00	145.50		
01019	PRIMAL DEFENSE® - 180 caplets	78.95	59.21		
00525	PROBOOST THYMIC PROTEIN A™ - 4 mcg, 30 packets	72.00	54.00		
	PROBOOST THYMIC PROTEIN A™ - 4 boxes	280.00	210.00		
00869	PRO FEM CREAM - 2 oz jar, Progesterone Cream	26.00	19.50		
	PRO FEM CREAM - 4, 2 oz jars, Progesterone Cream	96.00	72.00		
01020	PROGREENS® - 15 stick pack	22.50	16.88		
01072	PRO M INTERNAL DEODORIZER - 500 mg, 100 veg. caps	28.00	21.00		
	PRO M INTERNAL DEODORIZER - 4 bottles of 100 veg. caps	100.00	75.00		
*01495	(ULTRA NAT) PROSTATE FORMULA w/ 5-LOXIN® STAND. LIGNANS-60 softgels	38.00	28.50		
	(ULTRA NAT) PROSTATE FORMULA w/ 5-LOXIN® STAND. LIGNANS-4 bot of 60 softgels	140.00	105.00		
	(ULTRA NAT) PROSTATE FORMULA w/ 5-LOXIN® STAND. LIGNANS-12 bot of 60 softgels	384.00	288.00		
01092	(ENHANCED LIFE EXTENSION) PROTEIN (VANILLA) - 1 kg. of powder	38.00	28.50		
	(ENHANCED LIFE EXTENSION) PROTEIN (VANILLA) - 4 bot of powder	144.00	108.00		
01093	(ENHANCED LIFE EXTENSION) PROTEIN (CHOCOLATE) - 1 kg of powder	38.00	28.50		
	(ENHANCED LIFE EXTENSION) PROTEIN (CHOCOLATE) - 4 bot of powder	144.00	108.00		
01094	(ENHANCED LIFE EXTENSION) PROTEIN (NATURAL) - 1 kg of powder	38.00	28.50		
	(ENHANCED LIFE EXTENSION) PROTEIN (NATURAL) - 4 bot of powder	144.00	108.00		
01095	(ENHANCED LIFE EXTENSION) PROTEIN (BERRY) - 1 kg of powder	38.00	28.50		
	(ENHANCED LIFE EXTENSION) PROTEIN (BERRY) - 4 bot of powder	144.00	108.00		
00290	(DESIGNER WHEY) PROTEIN - Vanilla 2 lbs of powder	42.49	31.87		
	(DESIGNER WHEY) PROTEIN - 4 bottles of Vanilla powder	154.00	115.50		
00282	(DESIGNER WHEY) PROTEIN - Chocolate 2 lbs of powder	42.49	31.87		
	(DESIGNER WHEY) PROTEIN - 4 bottles of Chocolate powder	154.00	115.50		
00283	(DESIGNER WHEY) PROTEIN - Natural 2 lbs of powder	42.49	31.87		
	(DESIGNER WHEY) PROTEIN - 4 bottles of Natural powder	154.00	115.50		
01056	PURE-GAR® - 200 caps	24.95	18.71		
	PURE-GAR® - 4 bottles of 200 caps	84.00	63.00		
01075	PURE PLANT PROTEIN - Natural Vanilla 450 grams	36.00	27.00		
	PURE PLANT PROTEIN - 4 jar powder	132.00	99.00		
01209	(WATER-SOLUBLE) PUMPKIN SEED EXTRACT - 60 veg. caps	20.00	15.00		
	(WATER-SOLUBLE) PUMPKIN SEED EXTRACT - 4 bottles 60 veg. caps	72.00	54.00		
01210	(WATER-SOLUBLE) PUMPKIN SEED EXT w/SOY ISOFLAVONES - 60 veg. caps	22.00	16.50		
	(WATER-SOLUBLE) PUMPKIN SEED EXT w/SOY ISOFLAVONES - 4 bottles 60 veg.	80.00	60.00		
01031	PYCNOGENOL® - 60 veg. caps	86.95	65.21		
01207	PYRIDOXAMINE CAPS - 50 mg, 60 veg. caps	22.00	16.50		
	PYRIDOXAMINE CAPS - 4 bottles of 60 veg. caps	79.20	59.40		

* Product cannot be sold outside the USA.

SUB-TOTAL OF COLUMN 14

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

No.		Retail	Member Price	Qty	Total
Q, R					
01309	(OPTIMIZED) QUERCETIN - 250 mg, 60 veg. caps	\$18.00	\$13.50		
	(OPTIMIZED) QUERCETIN - 4 bottles of 60 veg. caps	68.00	51.00		
01030	RED YEAST RICE (Bluebonnet)- 600 mg, 60 veg. caps	16.95	12.71		
00979	RED YEAST RICE (Nature's Plus)- 600 mg, 60 veg. caps	23.20	17.40		
00060	RED YEAST RICE EXTENDED RELEASE (Nature's Plus)- 30 veg. tablets	20.55	15.41		
00605	REGIMINT® - 60 enteric-coated caps	19.95	14.96		
	REGIMINT® - 4 bottles of 60 caps	74.68	56.01		
00448	REJUVENEX® BODY LOTION - 6 oz tube	24.00	18.00		
	REJUVENEX® BODY LOTION - 4 tubes	79.20	59.40		
	REJUVENEX® BODY LOTION - 8 tubes	136.00	102.00		
00918	REJUVENEX® FACTOR - 1.7 oz Airless pump bottle	65.00	48.75		
	REJUVENEX® FACTOR - 2 bottles	120.00	90.00		
	REJUVENEX® FACTOR - 4 bottles	220.00	165.00		
	REJUVENEX® FACTOR - 8 bottles	399.28	299.46		
01220	(ULTRA) REJUVENEX® - 2 oz jar	52.00	39.00		
	(ULTRA) REJUVENEX® - 2 jars	96.00	72.00		
	(ULTRA) REJUVENEX® - 4 jars	176.00	132.00		
	(ULTRA) REJUVENEX® - 8 jars	319.44	239.38		
00676	(ULTRA) REJUVENIGHT (DREAM CREAM) - 2 oz jar	39.95	29.96		
	(ULTRA) REJUVENIGHT (DREAM CREAM) - 4 jars	144.00	108.00		
00706	(ULTRA) REJUVENIGHT w/PROGESTERONE - 2 oz jar	42.00	31.50		
	(ULTRA) REJUVENIGHT w/PROGESTERONE - 4 jars	152.00	114.00		
01413	RESVERATROL w/PTEROSTILBENE - 20 mg, 60 veg. caps	24.00	18.00		
	RESVERATROL w/PTEROSTILBENE - 4 bottles of 60 veg. caps	88.00	66.00		
01410	RESVERATROL w/PTEROSTILBENE - 100 mg, 60 veg. caps	36.00	27.00		
	RESVERATROL w/PTEROSTILBENE - 4 bottles of 60 veg. caps	128.00	96.00		
01430	(OPTIMIZED) RESVERATROL w/SYNERGISTIC GRAPE-BERRY ACTIVES - 250 mg, 60 veg. caps	46.00	34.50		
	(OPTIMIZED) RESVERATROL w/SYNERGISTIC GRAPE-BERRY ACTIVES - 4 bottles of 60 veg. caps	165.32	124.00		
00889	RHODIOLA EXTRACT - 250 mg, 60 veg. caps	11.75	8.81		
	RHODIOLA EXTRACT - 4 bottles of 60 veg. caps	42.32	31.74		
00972	(D) RIBOSE POWDER - 150 grams of powder	27.50	20.63		
	(D) RIBOSE POWDER - 4 jars of 150 grams	99.00	74.25		
01473	(D) RIBOSE CAPS - 100 veg. tabs	32.00	24.00		
	(D) RIBOSE CAPS - 4 bottles of 100 veg. tabs	112.00	84.00		
01208	(SUPER) R-LIPOIC ACID - 300 mg, 60 veg. caps	49.00	36.75		
	(SUPER) R-LIPOIC ACID - 4 bottles of 60 veg. caps	180.00	135.00		
00070	RNA CAPSULES - 500 mg, 100 caps	17.95	13.46		
	RNA CAPSULES - 4 bottles of 100 caps	64.64	48.48		
00917	ROSMARINIC ACID EXTRACT - 60 veg. caps	59.00	44.25		
	ROSMARINIC ACID EXTRACT - 4 bottles of 60 veg. caps	212.00	159.00		
S					
01082	(JARROW) SACCHAROMYCES BOULARDII + MOS - 30 veg. caps	\$9.95	\$7.46		
01067	(JARROW) SACCHAROMYCES BOULARDII + MOS - 90 veg. caps	21.95	16.46		
01432	(OPTIMIZED) SAFFRON w/SATIREAL - 60 veg. caps	36.00	27.00		
	(OPTIMIZED) SAFFRON w/SATIREAL - 4 bottles of 60 veg. caps	128.00	96.00		
*00573	SAMBU GUARD - 175 ml	17.49	13.99		
00358	SAME (S-ADENOSYL-METHIONINE) - 200 mg, 20 enteric coated tablets	18.95	14.21		
	SAME (S-ADENOSYL-METHIONINE) - 8 boxes of 20 enteric coated tablets	132.80	99.60		
00453	SAME (S-ADENOSYL-METHIONINE) - 200 mg, 50 enteric coated tablets	45.00	33.75		
	SAME (S-ADENOSYL-METHIONINE) - 4 bottles of 50 enteric coated tablets	156.00	117.00		

SUB-TOTAL OF COLUMN 15

No.		Retail	Member Price	Qty	Total
00557	SAME (S-ADENOSYL-METHIONINE) - 400 mg, 20 enteric coated tablets	\$35.00	\$26.25		
	SAME (S-ADENOSYL-METHIONINE) - 6 boxes of 20 enteric coated tablets	168.00	126.00		
01055	SAME (S-ADENOSYL-METHIONINE) - 400 mg, 50 tablets	78.00	58.50		
	SAME (S-ADENOSYL-METHIONINE) - 4 bottles of 50 tablets	280.00	210.00		
01043	SEA-IODINE™ - 1000 mcg, 60 veg. caps	8.00	6.00		
	SEA-IODINE™ - 4 bottles of 60 veg. caps	28.80	21.60		
00046	SELENIUM - 2 oz dropper bottle	9.45	7.09		
	SELENIUM - 4 bottles of 2 oz bottle	36.00	27.00		
00567	SE-METHYLSELENOCYSTEINE - 200 mcg, 100 caps	12.00	9.00		
	SE-METHYLSELENOCYSTEINE - 4 bottles of 100 caps	44.00	33.00		
00318	SERRAFLAZYME - 100 tablets	18.00	13.50		
	SERRAFLAZYME - 4 bottles of 100 tablets	64.00	48.00		
00284	SHARK LIVER OIL (NORWEGIAN) - 1000 mg, 30 softgels	18.00	13.50		
	SHARK LIVER OIL (NORWEGIAN) - 4 bottles of 30 softgels	64.00	48.00		
00184	SILYMARIN - 100 mg, 50 caps	9.25	6.94		
	SILYMARIN - 4 bottles of 50 caps	33.00	24.75		
00702	(MEGA) SILYMARIN WITH ISOSILYBIN B - 100 caps	42.00	31.50		
	(MEGA) SILYMARIN WITH ISOSILYBIN B - 4 bottles of 100 caps	152.00	114.00		
00872	SLIMSTYLES PGX® - 6.4 oz powder	22.95	17.21		
00961	SODZYME® W/GLISODIN® AND WOLFBERRY - 90 veg. caps	28.00	21.00		
	SODZYME® W/GLISODIN® AND WOLFBERRY - 4 bottles of 90 veg. caps	96.00	72.00		
00657	SOLARSHIELD SUNGLASSES - 1 pair smoke color	12.99	9.74		
	SOLARSHIELD SUNGLASSES - 2 pair smoke color	23.00	17.25		
01097	(ULTRA) SOY EXTRACT - 150 veg. caps	87.00	65.25		
	(ULTRA) SOY EXTRACT - 4 bottles of 150 veg. caps	312.00	234.00		
00304	SOY POWER POWDER - 300 grams of powder	31.50	23.63		
	SOY POWER POWDER - 4 bottles of powder	114.00	85.50		
00286	SOY PROTEIN POWDER (concentrated soy protein) - 16 oz of powder	12.00	9.00		
	SOY PROTEIN POWDER - 4 bottles of powder	42.50	31.87		
01099	STABILIMUM® 200 - 30 caps	30.00	22.50		
00432	STEVIA EXTRACT - 100 packets, 1 gram each	9.95	7.46		
	STEVIA EXTRACT - 4 boxes of 100 packets	36.00	27.00		
00351	ST. JOHN'S WORT EXTRACT - 300 mg, 60 caps	10.98	8.24		
	ST. JOHN'S WORT EXTRACT - 4 bottles of 60 caps	40.00	30.00		
00327	ST. JOHN'S WORT EXTRACT (PLANETARY) - 600 mg, 60 tablets	16.75	12.56		
	ST. JOHN'S WORT EXTRACT (PLANETARY) - 4 bottles of 60 tablets	55.40	41.55		
00971	SUN PROTECTION SPRAY W/BETA GLUCAN - SPF30 - 6 oz bottle	14.95	11.21		
	SUN PROTECTION SPRAY W/BETA GLUCAN - SPF30 - 4 bottles, 6 oz	54.00	40.50		
00747	(OVERCAST POLARIZED) SUNGLASSES - gray color, large	27.00	20.25		
	(OVERCAST POLARIZED) SUNGLASSES - 2 pairs, gray color	42.00	31.50		
00748	(OVERCAST POLARIZED) SUNGLASSES - gray color, medium	27.00	20.25		
	(OVERCAST POLARIZED) SUNGLASSES - 2 pairs, gray color	42.00	31.50		
00758	SUPER ABSORBABLE SOY ISOFLAVONES - 60 caps	28.00	21.00		
	SUPER ABSORBABLE SOY ISOFLAVONES - 4 bottles of 60 caps	100.00	75.00		
01408	SUPER SAW PALMETTO/NETTLE ROOT w/BETA-SITOSTEROL 60 softgels	28.00	21.00		
	SUPER SAW PALMETTO/NETTLE ROOT w/BETA-SITOSTEROL 4 bottles of 60 softgels	104.00	78.00		
	SUPER SAW PALMETTO/NETTLE ROOT w/BETA-SITOSTEROL One-year supply	288.00	216.00		
01407	SUPER SAW PALMETTO W/BETA-SITOSTEROL - 30 softgels	15.00	11.25		
	SUPER SAW PALMETTO W/BETA-SITOSTEROL - 12 bottles of 30 softgels	144.00	108.00		

**** These products are not 25% off retail price.**

SUB-TOTAL OF COLUMN 16

Buyers Club Order Form

To order call: 1.954.766.8433 or 1.800.544.4440

No.		Retail	Member Price	Qty	Total
S CONTINUED					
00578	SUPER SELENIUM COMPLEX - 200 mcg, 100 caps	\$12.00	\$9.00		
	SUPER SELENIUM COMPLEX - 4 bottles of 100 caps	40.00	30.00		
	SUPER SELENIUM COMPLEX - 12 bottles of 100 caps	108.00	81.00		
00674	SYTRINOL™ - 60 softgels	32.00	24.00		
	SYTRINOL™ - 4 bottles of 60 softgels	112.00	84.00		
T					
TAL•SHI™ COSMETICS • For information please call 1-800-544-4440 or visit www.lifeextension.com					
01062	TART CHERRY (FRUIT ADVANTAGE) - 600 mg, 60 caps	\$18.95	\$14.21		
00199	TAURINE CAPSULES - 1000 mg, 50 caps	8.95	6.71		
	TAURINE CAPSULES - 4 bottles of 50 caps	32.00	24.00		
00133	TAURINE POWDER - 300 grams, powder	20.00	15.00		
	TAURINE POWDER - 4 bottles of powder	67.52	50.64		
01304	THEAFLAVIN STANDARDIZED EXTRACT - 30 veg. caps	18.00	13.50		
	THEAFLAVIN STANDARDIZED EXTRACT - 4 bottles of 30 veg. caps	64.00	48.00		
00555	(L) THEANINE - 100 mg, 60 caps	24.00	18.00		
	(L) THEANINE - 4 bottles of 60 caps	82.00	61.50		
*01038	THERALAC - 30 caps	44.95	33.71		
00224	THYMIC IMMUNE FACTORS - 100 caps	18.00	13.50		
	THYMIC IMMUNE FACTORS - 4 bottles of 100 caps	56.00	42.00		
00668	(METABOLIC ADVANTAGE) THYROID FORMULA - 100 caps	17.95	13.46		
00349	TMG - 50 grams of powder	14.00	10.50		
	TMG - 4 bottles of powder	44.00	33.00		
00359	TMG TABLETS - 500 mg, 180 tablets	18.00	13.50		
	TMG TABLETS - 4 bottles of 180 tablets	62.00	46.50		
00366	TOCOTRIENOLS - 50 mg, 60 softgel caps	39.95	29.96		
	TOCOTRIENOLS - 4 bottles of 60 softgel caps	144.00	108.00		
00781	TOCOTRIENOLS WITH SESAME LIGNANS - 60 softgels	38.00	28.50		
	TOCOTRIENOLS WITH SESAME LIGNANS - 4 bottles of 60 softgels	144.00	108.00		
01400	(SUPER-ABSORBABLE) TOCOTRIENOLS - 60 softgels	30.00	22.50		
	(SUPER-ABSORBABLE) TOCOTRIENOLS - 4 bottles of 60 softgels	112.00	84.00		
01274	TOTAL SUN PROTECTION CREAM W/BETAGLUCANS & PHOTO-AGING RECOVERY COMPLEX - SPF 30, 4 oz Tube	28.00	21.00		
	TOTAL SUN PROTECTION CREAM W/BETAGLUCANS & PHOTO-AGING RECOVERY COMPLEX - 4-4 oz Tubes	100.80	75.60		
01468	TRIPLE ACTION CRUCIFEROUS VEGETABLE EXTRACT - 60 veg. caps	24.00	18.00		
	TRIPLE ACTION CRUCIFEROUS VEGETABLE EXTRACT - 4 bot 60 veg. caps	88.00	66.00		
01469	TRIPLE ACTION CRUCIFEROUS VEGETABLE EXTRACT W/RESVERATROL - 60 veg. caps	32.00	24.00		
	TRIPLE ACTION CRUCIFEROUS VEGETABLE EXTRACT w/RESVERATROL - 4 bottles	118.40	88.80		
01046	TRIPLE ACTION UNDER EYE REJUVENATOR - 0.5 oz pump	24.00	18.00		
	TRIPLE ACTION UNDER EYE REJUVENATOR - 4 boxes	88.00	66.00		
00866	TRYPTOPURE® L-TRYPTOPHAN - 500 mg, 90 veg. caps	38.00	28.50		
	TRYPTOPURE® L-TRYPTOPHAN - 4 bottles of 90 veg. caps	136.00	102.00		
01202	(OPTIMIZED) TRYPTOPURE® PLUS - 90 veg. caps	40.00	30.00		
	(OPTIMIZED) TRYPTOPURE® PLUS - 4 bottles of 90 veg. caps	144.00	108.00		
00326	L-TYROSINE TABLETS - 500 mg, 100 tablets	12.50	9.38		
	L-TYROSINE TABLETS - 4 bottles of 100 tablets	45.68	34.26		
U					
*00310	UDO'S CHOICE® - 17 oz liquid (omega fatty acids)	\$27.49	\$21.99		
*00311	UDO'S CHOICE® - 1000 mg, 180 caps	33.79	27.03		
*00322	UDO'S CHOICE® WHOLESOME FAST FOOD - 1 lb bottle	27.49	21.99		
01061	ULTIMATE FLORA ADVANCED IMMUNITY - 30 caps	29.99	22.49		

SUB-TOTAL OF COLUMN 17

No.		Retail	Member Price	Qty	Total
V					
00213	VANADYL SULFATE - 7.5 mg, 100 tablets	\$15.00	\$11.25		
	VANADYL SULFATE - 4 bottles of 100 tablets	50.00	37.50		
00252	VELVET DEER ANTLER - 250 mg, 30 caps	36.00	27.00		
	VELVET DEER ANTLER - 4 bottles of 30 caps	136.00	102.00		
00408	VENOTONE - 60 caps	18.95	14.21		
	VENOTONE - 4 bottles of 60 caps	64.00	48.00		
00427	VINPOCETINE - 5 mg, 100 tablets	18.00	13.50		
	VINPOCETINE - 4 bottles of 100 tablets	56.00	42.00		
01033	VISION OPTIMIZER - 90 caps	29.95	22.46		
01098	VITAL GREENS MIX - 319.5 grams of powder	48.00	36.00		
	VITAL GREENS MIX - 4 jars of powder	176.00	132.00		
01219	(INTERPLEXUS) VITAMIN A NUTRISORB - 10,000 IU 0.6 fl oz	27.00	20.25		
00091	VITAMIN B1 CAPS - 500 mg, 100 caps	16.99	12.74		
	VITAMIN B1 CAPS - 4 bottles of 100 caps	60.68	45.51		
00093	VITAMIN B2 CAPS - 100 mg, 100 caps	12.99	9.74		
	VITAMIN B2 CAPS - 4 bottles of 100 caps	47.52	35.64		
00096	VITAMIN B3 (NIACIN) - 1000 mg, 100 caps	12.75	9.56		
	VITAMIN B3 (NIACIN) - 4 bottles of 100 caps	48.00	36.00		
00372	VITAMIN B3 (NIACIN) - 500 mg, 100 caps	7.65	5.74		
	VITAMIN B3 (NIACIN) - 4 bottles of 100 caps	26.60	19.95		
00098	VITAMIN B5 CAPS - 500 mg, 100 caps (Pantothenic Acid)	10.50	7.88		
	VITAMIN B5 CAPS - 4 bottles of 100 caps	37.52	28.14		
00556	VITAMIN B6 CAPS - 250 mg, 100 caps	12.50	9.38		
	VITAMIN B6 CAPS - 4 bottles of 100 caps	44.00	33.00		
00361	VITAMIN B12 TABLETS - 500 mcg, 100 dissolve-in-mouth tablets	8.75	6.56		
	VITAMIN B12 TABLETS - 4 bottles of 100 dissolve-in-mouth tablets	29.00	21.75		
00927	VITAMIN C WITH DIHYDROQUERCETIN - 1000 mg, 250 tablets	25.50	19.13		
	VITAMIN C WITH DIHYDROQUERCETIN - 4 bottles of 250 tablets	93.00	69.75		
00084	(BUFFERED) VITAMIN C POWDER - 454.6 grams of powder	23.95	17.96		
	(BUFFERED) VITAMIN C POWDER - 4 bottles of powder	88.00	66.00		
00864	VITAMIN D - 2000 IU, 1 fl oz	28.00	21.00		
	VITAMIN D - 4 bottles of 1 fl oz	100.00	75.00		
00251	VITAMIN D3 CAPS - 1000 IU, 250 caps	12.50	9.38		
	VITAMIN D3 CAPS - 4 bottles of 250 caps	45.00	33.75		
00713	VITAMIN D3 CAPS - 5000 IU, 60 caps	11.00	8.25		
	VITAMIN D3 CAPS - 4 bottles of 60 caps	39.60	29.70		
01418	VITAMIN D3 CAPS - 7000 IU, 60 caps	14.00	10.50		
	VITAMIN D3 CAPS - 4 bottles of 60 caps	50.40	37.80		
01372	VITAMIN D3 w/SEA-IODINE - 5000 IU, 60 veg. caps	14.00	10.50		
	VITAMIN D3 w/SEA-IODINE - 4 bottles of 60 veg. caps	50.00	37.50		
01472	VITAMINS D AND K w/SEA-IODINE™ - 60 veg. caps	24.00	18.00		
	VITAMINS D AND K w/SEA-IODINE™ - 4 bottles of 60 veg. caps	88.00	66.00		
00063	VITAMIN E CAPS (NATURAL) - 400 IU, 100 caps	18.75	14.06		
	VITAMIN E CAPS (NATURAL) - 4 bottles of 100 caps	69.00	51.75		
	VITAMIN E CAPS (NATURAL) - 10 bottles of 100 caps	150.00	112.50		
01225	(LOW-DOSE) VITAMIN K2 (MK-7) - 45 mcg, 90 softgels	18.00	13.50		
	(LOW-DOSE) VITAMIN K2 (MK-7) - 4 bottles of 90 softgels	64.00	48.00		

* These products are not 25% off retail price.

** Due to license restrictions, this product is not for sale to Canada.

SUB-TOTAL OF COLUMN 18

To order online visit: www.lifeextension.com

Buyers Club Order Form

No.		Retail	Member Price	Qty	Total
Z					
00986	(SUPER) ZEAXANTHIN W/LUTEIN & MESO-ZEAXANTHIN - 60 softgels	\$22.00	\$16.50		
	(SUPER) ZEAXANTHIN W/LUTEIN & MESO-ZEAXANTHIN - 4 bottles	79.20	59.40		
01286	(SUPER) ZEAXANTHIN W/LUTEIN & MESO-ZEAXANTHIN PLUS ASTAXANTHIN	42.00	31.50		
	(SUPER) ZEAXANTHIN W/LUTEIN & MESO-ZEAXANTHIN PLUS ASTAXANTHIN - 4 bottles of 60 softgels	152.00	114.00		
00061	ZINC LOZENGES WITH VITAMIN C - 75 lozenges	9.50	7.13		
	ZINC LOZENGES WITH VITAMIN C - 4 bottles of 75 lozenges	27.00	20.25		
01051	ZYFLAMEND - 120 softgels	60.95	45.71		
01029	ZYFLAMEND EASYCAPS - 180 caps	31.95	23.96		

SUB-TOTAL OF COLUMN 19



HOW TO JOIN THE LIFE EXTENSION FOUNDATION®

As a member of the Life Extension Foundation®, you have the opportunity to participate in a great scientific endeavor. We are the world's premier organization dedicated to stopping and reversing aging.

Our 30-year track record shows that we have been five to ten years ahead of conventional and alternative medicine in making new life-saving therapies available to our members.

When you join the Life Extension Foundation®, we update you on the latest published medical research by sending you FREE books. Our most impressive publication is the 1,666-page *Disease Prevention and Treatment* protocol book that contains novel therapies to treat 133 common diseases of aging. *Disease Prevention and Treatment* is the only book that combines conventional and alternative therapies in order to implement a treatment regimen for fighting the multiple processes involved in degenerative disease.

Each month, Life Extension Foundation® members receive a magazine packed with the latest medical findings from around the world. Members also can call a toll-free phone number to talk to our knowledgeable health advisors about their health issues.

If your number one priority is good health and a long life, please join our not-for-profit organization.

Four Easy Ways to Join

1. Call toll-free 1-800-544-4440
2. Go to www.lef.org
3. Fax back to 1-866-728-1050
4. Mail to: Life Extension Foundation® • PO Box 407198 Ft. Lauderdale, FL 33340-7198 • Local Number: 954-766-8433

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I want to contribute to your research efforts to extend the healthy human life span. Enclosed is my first year's membership donation of \$75 to join the most elite group of longevity enthusiasts in the world. (Canadians add \$7, all others outside the U.S. add \$35) Item code: MEMB1. Call for multiple year membership rates.

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A Partnership in Heart Health

New Chapter Zyflamend & LifeExtension Super Omega-3

Multiple Synergistic Components, Whole Body Benefits

Many people think that only joints are affected by inflammation. The truth is that the body's natural inflammatory response affects everyone and every major organ system. Given the link between a healthy inflammation response and whole body health – a source of extensive and ongoing research – a supplement strategy geared toward promoting a healthy inflammation response is as fundamental as a daily multivitamin.* Research at leading medical institutions, including human clinical trials, has demonstrated a unique herbal formulation's ability to promote a safe, natural and healthy response to inflammation.*

Zyflamend® is the #1-selling herbal in the U.S.† for healthy inflammation response.* It contains hundreds of bioactive constituents from ten of the most researched botanicals that promote a healthy inflammatory response and provide multiple health benefits: heart health, healthy aging, joint health, and bone health.*

Zyflamend for Heart Health

Recent research suggests that the key factor in predicting heart health is gauging the amount of inflammation in the arteries. C-reactive protein is a blood marker used to assess inflammation and heart health.

Early data from a human clinical study conducted at Columbia University suggests that daily supplementation with Zyflamend promotes healthy levels of C-reactive protein.*

In data presented at the 2008 meeting for the Society for Integrative Oncology, researchers reported the following analysis of data from a Zyflamend human clinical study: "A statistically significant reduction in serum C-reactive protein was... observed after 18 months."

Maintaining a healthy cardiovascular system is strongly linked to a healthy inflammation response – Zyflamend is the first choice for promoting heart health.*

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† According to 2010 SPINS Data

Zyflamend
120 Softgels
Item number 01051
Retail Price: ~~\$60.95~~
Member Price: \$45.71

Super Omega-3
120 Softgels
Item number 01482
Retail Price: ~~\$32.00~~
Member Price: \$24.00



Omega-3 Is Important for Cardiovascular Health

The body needs fatty acids to survive and is able to make all but two of them: linoleic acid (LA) in the omega-6 family, and alpha-linolenic acid (ALA) in the omega-3 family. These two fatty acids must be supplied by the diet and are therefore considered essential fatty acids (EFAs).

Omega-3 fatty acids, found in cold-water fish (and fish oil), perilla oil, and flaxseed oil, are essential elements of a healthy diet. While the polyunsaturated fats known as omega-6 fatty acids are essential to life, most Americans and citizens of other Western nations consume far too many omega-6 polyunsaturated fatty acids and not enough omega-3 polyunsaturated fatty acids. In fact, some Western diets consist of 20 parts of omega-6 to only one part of omega-3. For optimum health, the ratio of omega-6 to omega-3 fatty acids should be between 1:1 and 4:1.† The severe imbalance that occurs with most people contributes to the development of long-term health problems.

Life Extension's Super Omega-3 is a premium, scientifically-validated fish oil concentrate, derived from sustainable sources, that contains a proprietary, full-spectrum blend of synergistic nutrients to provide scientifically-validated cardioprotective health benefits.

Super Omega-3 from Life Extension® uses a patented EPA/DHA extraction process that results in a pure, stable, and easy-to-tolerate fish oil extract. While most fish oil is distilled to decrease contaminants such as mercury and PCBs, the Pure+™ fish oil used in Super Omega-3 is produced with a patented method that purifies the oil with a highly advanced distillation process to reduce pollutants to virtually undetectable levels. The result is an improved fish oil that exceeds the standards set by international rating agencies.

1. *Minerva Pediatr.* 2008 Apr;60(2):219-33

To order Zyflamend or Super Omega-3, call
1-800-544-4440 or visit www.LifeExtension.com

 **NEWCHAPTER**®

* 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.



Is 100 the new 80?

In 1907 when Russian scientist and Nobel laureate Eli Metchnikoff observed rural populations in Bulgaria that were exceptionally long lived, he knew it warranted investigation. The diets of these rural people contained large quantities of milk fermented with lactic acid bacteria.



In his 3rd book, *The Prolongation of Life: Optimistic Studies*, Metchnikoff published findings on the **potential life-lengthening properties of probiotic bacteria.**

As Metchnikoff came to discover, the majority of our immunity begins in the intestines. When we have good intestinal health, we are far more able to fight off infection and invading microorganisms. What Metchnikoff devoted years of research to is now something that we take for granted: **Probiotics do so much more than simply restore regularity.**

Keys to Longevity and Vitality Supported by Theralac®

Theralac achieves the benefits Metchnikoff detailed in his research, and much more!

- ▶ Produces abundant lactic acid which cleanses the small intestine and colon
- ▶ Up regulates both cellular and humoral immune systems
- ▶ Aids in production of Butyric acid, helping to regulate peristaltic action
- ▶ Produces specific metabolites hydrogen peroxide and acidophilin, that play a key role in a healthy GI Tract

- ▶ Is a "Hormone Harmonizer," maintaining estrogen and progesterone levels
- ▶ Helps to maintain cholesterol and glycemic levels already in normal range
- ▶ Aids in improved nutrient absorption

A Different World.

Metchnikoff's subjects lived in an entirely different world: 100 years ago they did not have many of the terrible offshoots of our modern society wreaking havoc with their bodies and digestive tracts:

- ▶ processed foods
- ▶ chlorinated water
- ▶ rampant pollution
- ▶ plastics (BPA) pollution
- ▶ diet soda, trans fats

- ▶ EMF and microwaves
- The most powerful, medical strength probiotic,** Theralac, is needed today when mere fermented foods worked 100 years ago.

The 2 capsules per week needed for maintenance is **less than \$3 per week** at MSRP. You really should take: **Theralac.**



Recommended 9 separate times in The Blaylock Wellness Report

Theralac® 30 capsules
Retail: \$44.95 Item# 01038

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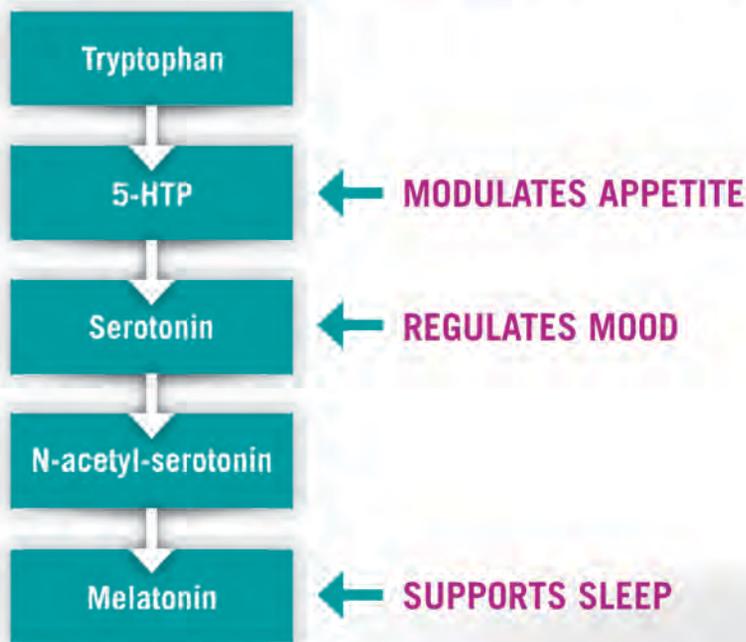
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INCORPORATED

Support for Emotional Well-Being from the Building Block for Serotonin and Melatonin



5-HTP (5-Hydroxytryptophan) is found naturally in the brain. It is an active metabolite of the amino acid tryptophan and a precursor of serotonin. As a building block for serotonin, 5-HTP is important for the regulation of sleep, mood and appetite. Jarrow Formulas' 5-HTP is an extract of *Griffonia simplicifolia* seeds from coastal West Africa. Purity is assured by HPLC.

- Involved in the Regulation of Mental and Emotional Well-being*
- Precursor to Melatonin, which is Important for Normal Sleep*
- May Play a Role in Appetite Control*
- Substrate for Serotonin Synthesis*
- Purity is Assured by HPLC *

5-HTP 100 mg 60 Capsules Item # 1074
Retail Price - \$ 27.95 Life Extension Member Price - \$ 20.96

www.Jarrow.com

Jarrow
FORMULAS®

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The Latest Advance in

CoQ10 Technology

Life Extension® was the first to introduce **coenzyme Q10** to the United States way back in **1983**. Since then, we have consistently introduced more **potent** and better **absorbable** forms of this critical nutrient.

Super Ubiquinol CoQ10 with Enhanced Mitochondrial Support™ contains an organic compound called **PrimaVie® shilajit** that research shows **doubles** levels of **CoQ10** in the **mitochondria**.¹

Shilajit has been shown to help restore and sustain **cellular energy**. The latest studies reveal that when **shilajit** is **combined** with **CoQ10**, **cellular energy** gains substantially increase.

In a breakthrough preliminary study, the combination of CoQ10 and **shilajit** produced a **56%** increase in cellular energy production in the **brain—40% better** than CoQ10 alone.

In **muscle** there was a **144%** increase, or **27% better** than CoQ10 alone.²

Researchers have found that **shilajit** works to boost **CoQ10's** beneficial effects by:

1. Stabilizing CoQ10 in its superior **ubiquinol** form, thereby *prolonging* its action at the cellular level.^{3,4}
2. Facilitating more efficient *delivery* of CoQ10 into the **mitochondria**, resulting in greater cellular energy output.⁵⁻⁹

Scientific analysis shows that **shilajit** itself is rich in **essential** compounds that promote mitochondrial metabolism. Part of **shilajit's** beneficial effects derives from its ability to help the mitochondria convert **fats** and **sugars** into adenosine triphosphate, or **ATP**—the body's main source of energy.⁵⁻⁹

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

Super Ubiquinol CoQ10 with Enhanced Mitochondrial Support™

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



Item #01426

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

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



Item #01425

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



Item #01431

References:

1. Systemic CoQ level in animals: Part II. Unpublished study. Natreon, Inc.; 2007.
2. Pharmacologyonline. 2009;1:817-25.
3. Pharmacologyonline. 2009;2:690-8.
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